UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-Q

x Quarterly Report Under Section 13 or 15(d) of the Securities Exchange Act of 1934 for the quarterly period ended March 31, 2019

☐ Transition Report Under Section 13 or 15(d) of the Securities Exchange Act of 1934 for the transition period from _____ to _____.

Commission File Number: **001-37939**

MARKER THERAPEUTICS, INC.

(Name of registrant in its charter)

DELAWARE	**45-4497941**
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)
3200 Southwest Freeway, Suite 2240 Houston, Texas	**77027**
(Address of principal executive offices)	(Zip Code)
(713) 400-6400	
(Issuer's telephone number)	

Indicate by check mark whether the registrant (1) filed all reports required to be filed by Section 13 or 15(d) of the Exchange Act during the past 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, non-accelerated filer, a smaller reporting company, or an emerging growth company. See definition of “accelerated filer”, “large accelerated filer”, “smaller reporting company”, and “emerging growth company” in Rule 12b-2 of the Exchange Act (check one):

☐ Large accelerated filer
☐ Non-accelerated filer
x Accelerated filer
x Smaller reporting company
☐ Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock	MRKR	Nasdaq Capital Market

As of May 3, 2019, the Company had 45,484,483 shares of common stock issued and outstanding.

PART I. FINANCIAL INFORMATION

Item 1. Financial Statements

MARKER THERAPEUTICS, INC.
CONDENSED CONSOLIDATED BALANCE SHEETS
(UNAUDITED)

	March 31, 2019	December 31, 2018
ASSETS		
Current assets:		
Cash and cash equivalents	$ 57,706,579	$ 61,746,748
Prepaid expenses and deposits	216,433	141,717
Interest receivable	112,200	108,177
Total current assets	58,035,212	61,996,642
Non-current assets:		
Property, plant and equipment, net	360,280	147,668
Right-of-use assets, net	592,422	-
Total non-current assets	952,702	147,668
TOTAL ASSETS	**$ 58,987,914**	**$ 62,144,310**
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	$ 2,694,019	$ 2,754,572
Lease liability	189,791	-
Warrant liability	58,000	49,000
Total current liabilities	2,941,810	2,803,572
Non-current liabilities:		
Lease liability, net of current portion	435,192	-
Total non-current liabilities	435,192	-
Total liabilities	3,377,002	2,803,572
COMMITMENTS AND CONTINGENCIES		
Stockholders' equity:		
Preferred stock - $0.001 par value, 5 million shares authorized at March 31, 2019 and December 31, 2018, respectively		
Series A, $0.001 par value, 1.25 million shares designated, 0 shares issued and outstanding as of March 31, 2019 and December 31, 2018, respectively	-	-
Series B, $0.001 par value, 1.5 million shares designated, 0 shares issued and outstanding as of March 31, 2019 and December 31, 2018, respectively	-	-
Common stock, $0.001 par value, 150 million shares authorized, 45.5 million and 45.4 million shares issued and outstanding as of March 31, 2019 and December 31, 2018, respectively	45,484	45,440
Additional paid-in capital	366,989,803	365,400,748
Accumulated deficit	(311,424,375)	(306,105,450)
Total stockholders' equity	55,610,912	59,340,738
TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY	**$ 58,987,914**	**$ 62,144,310**

See accompanying notes to these unaudited condensed consolidated financial statements.

MARKER THERAPEUTICS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS
(UNAUDITED)

	For the Three Months Ended March 31,	
	2019	**2018**
Operating expenses:		
Research and development	$ 2,832,695	$ 1,599,550
General and administrative	2,805,775	1,597,936
Total operating expenses	5,638,470	3,197,486
Loss from operations	(5,638,470)	(3,197,486)
Other income (expense):		
Change in fair value of warrant liabilities	(9,000)	1,000
Interest income	328,545	-
Net loss	**$ (5,318,925)**	**$ (3,196,486)**
Net loss per share, Basic and Diluted	$ (0.12)	$ (0.30)
Weighted average number of common shares outstanding	45,465,754	10,622,420

See accompanying notes to these unaudited condensed consolidated financial statements.

MARKER THERAPEUTICS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(UNAUDITED)

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Par value			
Balance at January 1, 2019	**45,440,704**	**$ 45,440**	**$ 365,400,748**	**$ (306,105,450)**	**$ 59,340,738**
Stock options exercised for cash	11,980	12	57,732	-	57,744
Warrants exercised for cash	1,799	2	5,377	-	5,379
Stock-based compensation	30,000	30	1,525,946	-	1,525,976
Net loss	-	-	-	(5,318,925)	(5,318,925)
Balance, March 31, 2019	**45,484,483**	**$ 45,484**	**$ 366,989,803**	**$ (311,424,375)**	**$ 55,610,912**

	Common Stock		Additional Paid-in Capital	Accumulated Deficit	Total Stockholders' Equity
	Shares	Par value			
Balance at January 1, 2018	**10,615,724**	**$ 10,616**	**$ 161,067,538**	**$ (157,420,027)**	**$ 3,658,127**
Stock options exercised for cash	10,416	10	18,115	-	18,125
Stock-based compensation	10,042	10	136,183	-	136,193
Net loss	-	-	-	(3,196,486)	(3,196,486)
Balance, March 31, 2018	**10,636,182**	**$ 10,636**	**$ 161,221,836**	**$ (160,616,513)**	**$ 615,959**

See accompanying notes to these unaudited condensed consolidated financial statements.

MARKER THERAPEUTICS, INC.
CONDENSED CONSOLIDATED STATEMENTS OF CASH FLOWS
(UNAUDITED)

	For the Three Months Ended March 31,	
	2019	**2018**
Cash Flows from Operating Activities:		
Net loss	$ (5,318,925)	$ (3,196,486)
Reconciliation of net loss to net cash used in operating activities:		
Depreciation and amortization	10,514	-
Changes in fair value of warrant liabilities	9,000	(1,000)
Stock-based compensation	1,525,976	136,193
Amortization on right-of-use assets	44,211	-
Changes in operating assets and liabilities:		
Prepaid expenses and deposits	(74,716)	(77,878)
Interest receivable	(4,023)	-
Accounts payable and accrued expenses	(27,628)	792,849
Lease liability	(44,575)	-
Net cash used in operating activities	(3,880,166)	(2,346,322)
Cash Flows from Investing Activities:		
Purchase of property and equipment	(223,126)	-
Net cash used in investing activities	(223,126)	-
Cash Flows from Financing Activities:		
Proceeds from exercise of stock options	57,744	18,125
Proceeds from exercise of warrants	5,379	-
Net cash provided by financing activities	63,123	18,125
Net decrease in cash	(4,040,169)	(2,328,197)
Cash and cash equivalents at beginning of period	61,746,748	5,129,289
Cash and cash equivalents at end of period	$ 57,706,579	$ 2,801,092

See accompanying notes to these unaudited condensed consolidated financial statements.

NOTE 1: NATURE OF OPERATIONS

Marker Therapeutics, Inc., a Delaware corporation (the "Company" or "we"), is a clinical-stage immuno-oncology company specializing in the development and commercialization of innovative cell-based immunotherapies for the treatment of hematological malignancies and solid tumor indications, and novel peptide-based vaccines for the treatment of breast and ovarian cancers. The Company's cell-based immunotherapy technology is based on the selective expansion of non-engineered, tumor-specific T cells that recognize tumor associated antigens (i.e. tumor targets) and kill tumor cells expressing those targets. Once infused into patients, this population of T cells recognizes multiple tumor targets to produce broad spectrum anti-tumor activity.

NOTE 2: BASIS OF PRESENTATION

The accompanying unaudited condensed consolidated financial statements have been prepared in accordance with the accounting principles generally accepted in the United States of America ("U.S. GAAP") for interim financial information and pursuant to the instructions to Form 10-Q and Article 8 of Regulation S-X of the Securities and Exchange Commission ("SEC") and on the same basis as the Company prepares its annual audited consolidated financial statements. In the opinion of management, the accompanying unaudited condensed consolidated financial statements reflect all adjustments, consisting of normal recurring adjustments, considered necessary for a fair presentation of such interim results.

The results for the condensed consolidated statement of operations are not necessarily indicative of results to be expected for the year ending December 31, 2019 or for any future interim period. The condensed consolidated balance sheet at March 31, 2019 has been derived from unaudited financial statements; however, it does not include all of the information and notes required by U.S. GAAP for complete financial statements. The accompanying condensed consolidated financial statements should be read in conjunction with the consolidated financial statements for the year ended December 31, 2018 and notes thereto included in the Company's annual report on Form 10-K filed on March 15, 2019.

NOTE 3: LIQUIDITY AND FINANCIAL CONDITION

As of March 31, 2019, the Company had cash and cash equivalents of approximately $57.7 million. The Company's activities since inception have consisted principally of acquiring product and technology rights, raising capital, and performing research and development. Successful completion of the Company's development programs and, ultimately, the attainment of profitable operations are dependent on future events, including, among other things, its ability to access potential markets; secure financing, develop a customer base; attract, retain and motivate qualified personnel; and develop strategic alliances and collaborations. From inception, the Company has been funded by a combination of equity and debt financings.

The Company expects to continue to incur substantial losses over the next several years during its development phase. To fully execute its business plan, the Company will need to complete certain research and development activities and clinical studies. Further, the Company's product candidates will require regulatory approval prior to commercialization. These activities will span many years and require substantial expenditures to complete and may ultimately be unsuccessful. Any delays in completing these activities could adversely impact the Company. The Company plans to meet its capital requirements primarily through issuances of debt and equity securities and, in the longer term, revenue from product sales.

Based on our clinical and research and development plans and our timing expectations related to the progress of our programs, we expect that our cash, cash equivalents and investment securities as of March 31, 2019 will enable us to fund our operating expenses and capital expenditure requirements through at least the second quarter of 2020. We have based this estimate on assumptions that may prove to be wrong, and we could utilize our available capital resources sooner than we currently expect. Furthermore, our operating plan may change, and we may need additional funds to meet operational needs and capital requirements for product development and commercialization sooner than planned. Because of the numerous risks and uncertainties associated with the development and commercialization of our product candidates and the extent to which we may enter into additional collaborations with third parties to participate in their development and commercialization, we are unable to estimate the amounts of increased capital outlays and operating expenditures associated with our current and anticipated clinical trials. Our future funding requirements will depend on many factors, as we:

- initiate or continue clinical trials of our product candidates;
- continue the research and development of our product candidates, seek to discover additional product candidates; seek regulatory approvals for our product candidates if they successfully complete clinical trials;
- establish sales, marketing and distribution infrastructure and scale-up manufacturing capabilities to commercialize any product candidates that may receive regulatory approval;
- evaluate strategic transactions we may undertake; and
- enhance operational, financial and information management systems and hire additional personnel, including personnel to support development of our product candidates and, if a product candidate is approved, our commercialization efforts.

NOTE 4: SIGNIFICANT ACCOUNTING POLICIES

Leases

Effective January 1, 2019, the Company accounts for its leases under ASC 842, Leases. Under this guidance, arrangements meeting the definition of a lease are classified as operating or financing leases and are recorded on the consolidated balance sheet as both a right of use asset and lease liability, calculated by discounting fixed lease payments over the lease term at the rate implicit in the lease or the Company's incremental borrowing rate. Lease liabilities are increased by interest and reduced by payments each period, and the right of use asset is amortized over the lease term. For operating leases, interest on the lease liability and the amortization of the right of use asset result in straight-line rent expense over the lease term. For finance leases, interest on the lease liability and the amortization of the right of use asset results in front-loaded expense over the lease term. Variable lease expenses are recorded when incurred.

In calculating the right of use asset and lease liability, the Company elects to combine lease and non-lease components. The Company excludes short-term leases having initial terms of 12 months or less from the new guidance as an accounting policy election and recognizes rent expense on a straight-line basis over the lease term.

The Company continues to account for leases in the prior period financial statements under ASC Topic 840.

Other than above, there have been no material changes in the Company's significant accounting policies to those previously disclosed in the Company's annual report on Form 10-K, which was filed with the SEC on March 15, 2019.

New Accounting Standards

From time to time, new accounting pronouncements are issued by the Financial Accounting Standards Board ("FASB") or other standard setting bodies that we adopt as of the specified effective date. Unless otherwise discussed, we do not believe that the impact of recently issued standards that are not yet effective will have a material impact on our financial position or results of operations upon adoption.

Recent Accounting Standards Adopted in the Year

Leases

In February 2016, the FASB issued ASU 2016-02, Leases (Topic 842) in order to increase transparency and comparability among organizations by, among other provisions, recognizing lease assets and lease liabilities on the balance sheet for those leases classified as operating leases under previous GAAP. For public companies, ASU 2016-02 is effective for fiscal years beginning after December 15, 2018 (including interim periods within those periods) using a modified retrospective approach and early adoption is permitted. In transition, entities may also elect a package of practical expedients that must be applied in its entirety to all leases commencing before the adoption date, unless the lease is modified, and permits entities to not reassess (a) the existence of a lease, (b) lease classification or (c) determination of initial direct costs, as of the adoption date, which effectively allows entities to carryforward accounting conclusions under previous U.S. GAAP. In July 2018, the FASB issued ASU 2018-11, Leases (Topic 842): Targeted Improvements, which provides entities an optional transition method to apply the guidance under Topic 842 as of the adoption date, rather than as of the earliest period presented. The Company adopted Topic 842 on January 1, 2019, using the optional transition method to apply the new guidance as of January 1, 2019, rather than as of the earliest period presented, and elected the package of practical expedients described above. Based on the analysis, on January 1, 2019, the Company recorded right of use assets of approximately $637,000, lease liability of approximately $670,000 and eliminated deferred rent of approximately $33,000.

SEC Disclosure Update and Simplification

In August 2018, the SEC adopted the final rule under SEC Release No. 33-10532, Disclosure Update and Simplification, amending certain disclosure requirements that were redundant, duplicative, overlapping, outdated or superseded. In addition, the amendments expanded the disclosure requirements on the analysis of stockholders' equity for interim financial statements. Under the amendments, an analysis of changes in each caption of stockholders' equity presented in the balance sheet must be provided in a note or separate statement. The analysis should present a reconciliation of the beginning balance to the ending balance of each period for which a statement of comprehensive income is required to be filed. This final rule was effective on November 5, 2018. The first presentation of the changes in shareholders' equity in accordance with the new guidance is included in this Form 10-Q for the quarter ended March 31, 2019.

Improvements to Non-Employee Share-Based Payment Accounting

In June 2018, the FASB issued ASU 2018-07 "Improvements to Non-employee Share-Based Payment Accounting", which simplifies the accounting for share-based payments granted to non-employees for goods and services. Under the ASU, most of the guidance on such payments to non-employees would be aligned with the requirements for share-based payments granted to employees. The amendments are effective for fiscal years beginning after December 15, 2019, and interim periods within fiscal years beginning after December 15, 2020. The Company has early adopted the new standard effective January 1, 2019 and the adoption of this standard did not have a material impact on the Company's condensed consolidated financial statements.

NOTE 5: NET LOSS PER SHARE APPLICABLE TO COMMON SHAREHOLDER

Basic loss per common share is computed by dividing net loss by the weighted average number of common shares outstanding during the reporting period. Diluted loss per common share is computed similarly to basic loss per common share except that it reflects the potential dilution that could occur if dilutive securities or other obligations to issue common stock were exercised or converted into common stock.

The following table sets forth the computation of net loss per share:

	For the Three Months Ended March 31,	
	2019	**2018**
Numerator:		
Net loss	$ (5,318,925)	$ (3,196,486)
Denominator:		
Weighted average common shares outstanding	45,465,754	10,622,420
Net loss per share data:		
Basic and Diluted	$ (0.12)	$ (0.30)

The following securities, rounded to the thousand, were not included in the diluted net loss per share calculation because their effect was anti-dilutive for the periods presented:

	For the Three Months Ended March 31,	
	2019	2018
Common stock options	4,538,000	439,000
Common stock purchase warrants	22,979,000	6,520,000
Common stock warrants - liability treatment	27,000	-
Potentially dilutive securities	27,544,000	6,959,000

NOTE 6: PROPERTY AND EQUIPMENT

Property and equipment consist of the following as of March 31, 2019 and December 31, 2018, respectively:

	Estimated Useful Lives	March 31, 2019	December 31, 2018
Lab equipment	5 Years	$ 55,000	$ -
Computers and equipment	3-5 Years	138,000	66,000
Office furniture	5 Years	178,000	82,000
Total		371,000	148,000
Less: accumulated depreciation		(11,000)	-
Property and equipment, net		$ 360,000	$ 148,000

Depreciation expense for the three months ended March 31, 2019 was approximately $11,000. Furniture and computer equipment were placed in use on January 1, 2019, therefore no depreciation expense was recorded during the year ended December 31, 2018.

NOTE 7: LEASES

The Company leases office space under agreements classified as operating leases that expire on various dates through 2022. All of the Company's lease liabilities result from the lease of its corporate headquarters in Houston, Texas, which expires in 2021, and its Jacksonville, Florida office space, which expires in 2022. Such leases do not require any contingent rental payments, impose any financial restrictions, or contain any residual value guarantees. Certain of the Company's leases include renewal options and escalation clauses; renewal options have not been included in the calculation of the lease liabilities and right of use assets as the Company is not reasonably certain to exercise the options. Variable expenses generally represent the Company's share of the landlord's operating expenses. The Company does not act as a lessor or have any leases classified as financing leases.

The Company excludes short-term leases having initial terms of 12 months or less from the new accounting guidance as an accounting policy election and recognizes rent expense on a straight-line basis over the lease term. The Company has two lease agreements, an office at the Florida Atlantic Research and Development Authority and laboratory space located at the Texas Medical Center in Houston, which are included in short-term lease expense below.

At March 31, 2019, the Company had operating lease liabilities of approximately $625,000 and right of use assets of approximately $592,000, which were included in the condensed consolidated balance sheet.

The following summarizes quantitative information about the Company's operating leases:

	For the Three Months Ended March 31, 2019
Operating lease expense summary:	
Operating lease expense	$ 55,000
Short-term lease expense	22,000
Variable lease expense	15,000
Total	$ 92,000

Other information	
Operating cash flows from operating leases	$ 56,000
Right of use assets exchanged for new operating lease liabilities	$ 670,000
Weighted-average remaining lease term – operating leases	2.0
Weighted-average discount rate – operating leases	6.8%

Maturities of our operating leases, excluding short-term leases, are as follows:

Nine months ended December 31, 2019	$ 169,000
Year ended December 31, 2020	231,000
Year ended December 31, 2021	226,000
Year ended December 31, 2022	68,000
Total	$ 694,000
Less present value discount	(69,000)
Operating lease liabilities included in the Condensed Consolidated Balance Sheet at March 31, 2019	$ 625,000

NOTE 8: ACCOUNTS PAYABLE AND ACCRUED LIABILITIES

Accounts payable and accrued liabilities consist of the following as of March 31, 2019 and December 31, 2018, respectively:

	March 31, 2019	December 31, 2018
Accounts payable	$ 1,670,000	$ 1,619,000
Compensation and benefits	478,000	416,000
Professional fees	268,000	236,000
Technology license fees	80,000	80,000
Investor relations fees	153,000	297,000
Other	45,000	106,000
Total accounts payable and accrued liabilities	$ 2,694,000	$ 2,754,000

NOTE 9: WARRANT LIABILITY AND FAIR VALUE MEASUREMENTS

A summary of quantitative information with respect to valuation methodology and significant unobservable inputs used for the Company's common stock purchase warrants that are categorized within Level 3 of the fair value hierarchy for the three months ended March 31, 2019 and 2018 is as follows:

	For the Three Months Ended March 31,	
	2019	2018
Stock price	$ 6.60	$ 3.38
Exercise price	$ 9.72	$ 1.20
Contractual term (years)	0.83	0.28
Volatility (annual)	97%	69%
Risk-free rate	2%	1%
Dividend yield (per share)	0%	0%

The foregoing assumptions are reviewed quarterly and are subject to change based primarily on management's assessment of the probability of the events described occurring. Accordingly, changes to these assessments could materially affect the valuations.

Financial Liabilities Measured at Fair Value on a Recurring Basis

Financial liabilities measured at fair value on a recurring basis are summarized below and disclosed on the balance sheet under Warrant liability:

	Fair value measured at March 31, 2019			
	Quoted prices in active markets (Level 1)	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Fair value at March 31, 2019**
Warrant liability	$ -	$ -	$ 58,000	$ 58,000

	Fair value measured at December 31, 2018			
	Quoted prices in active markets (Level 1)	**Significant other observable inputs (Level 2)**	**Significant unobservable inputs (Level 3)**	**Fair value at December 31, 2018**
Warrant liability	$ -	$ -	$ 49,000	$ 49,000

The fair value accounting standards define fair value as the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is determined based upon assumptions that market participants would use in pricing an asset or liability. Fair value measurements are rated on a three-tier hierarchy as follows:

- Level 1 inputs: Quoted prices (unadjusted) for identical assets or liabilities in active markets;
- Level 2 inputs: Inputs, other than quoted prices included in Level 1, that are observable either directly or indirectly; and
- Level 3 inputs: Unobservable inputs for which there is little or no market data, which require the reporting entity to develop its own assumptions.

There were no transfers between Level 1, 2 or 3 during the three months ended March 31, 2019.

The following table presents changes in Level 3 liabilities measured at fair value for the three months ended March 31, 2019:

	Warrant Liability
Balance - January 1, 2019	$ 49,000
Change in fair value of warrant liability	9,000
Balance – March 31, 2019	$ 58,000

NOTE 10: STOCKHOLDERS' EQUITY

Common Stock Transactions

Exercise of Stock Warrants

During the three months ended March 31, 2019, certain outstanding warrants were exercised by a warrant holder providing aggregate proceeds to the Company of approximately $5,400 and resulted in the issuance of 1,799 shares of common stock.

Exercise of Stock Options

In January 2019, 11,980 shares of common stock were issued pursuant to stock option exercises at an exercise price equal to $4.82 per share.

Consulting Arrangements

During the three months ended March 31, 2019, the Company issued 30,000 shares of common stock in connection with consulting agreements. The fair value of the common stock of approximately $176,000 was recognized as stock-based compensation expense in general and administrative expenses.

Share Purchase Warrants

A summary of the Company's share purchase warrants as of March 31, 2019 and changes during the period is presented below:

	Number of Warrants	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (in years)	Total Intrinsic Value
Balance - January 1, 2019	**23,016,000**	**$ 4.78**	**4.29**	**$ 26,066,000**
Exercised for cash	(2,000)	2.99	-	-
Expired or cancelled	(8,000)	12.72	-	-
Balance - March 31, 2019	**23,006,000**	**$ 4.78**	**4.04**	**$ 48,553,000**

NOTE 11: STOCK-BASED COMPENSATION

The following table sets forth stock-based compensation expenses recorded during the respective periods:

	For the Three Months Ended March 31,	
	2019	2018
Stock Compensation expenses:		
Research and development	$ 687,000	$ 103,000
General and administrative	839,000	33,000
Total stock compensation expenses	$ 1,526,000	$ 136,000

At March 31, 2019, the total stock-based compensation cost related to unvested awards not yet recognized was $15.7 million. The expected weighted average period compensation costs to be recognized was 1.90 years. Future option grants will impact the compensation expense recognized.

On October 19, 2018 the Board of Directors granted Mr. Peter Hoang, our Chief Executive Officer, an option award of 1,359,855 shares of our common stock at an exercise price of $9.18 (which price is equal to the closing price of our common stock on October 19, 2018). These option awards had a term of ten years and were fully vested upon grant and as such, all stock-based compensation expenses were recorded during the fiscal year ended December 31, 2018.

After engagement of a compensation consultant, and further review and consideration of Mr. Hoang's overall compensation, certain changes were recommended by the Compensation Committee and approved by the Board on March 14, 2019, Mr. Hoang's option award for 1,359,855 shares was amended to change the vesting from being fully vested to being subject to vesting on a monthly basis over four years. There was no incremental stock-based compensation expense recorded during the quarter ended March 31, 2019 relating to this modification.

NOTE 12: COMMITMENTS

Employment Agreements

On February 6, 2019, the Company appointed Mythili Koneru as the Company's Senior Vice President Clinical Development. In connection with Ms. Koneru's appointment, she entered into an employment agreement with the Company. The employment agreement provides that Ms. Koneru's base salary will be $350,000 per year and she is eligible for an annual performance bonus of up to 35% of her base salary.

On March 14, 2019, the Company and Mr. Hoang entered into an amendment to Mr. Hoang's employment agreement to make the following changes:

- To reflect an increase of Mr. Hoang's annual base salary from $362,500 to $380,000 per year effective January 1, 2019;
- To eliminate references to future equity awards in the second and third anniversary of the Employment Agreement of one percent (1%) of outstanding shares and to eliminate references to the initial equity award Mr. Hoang already received and to eliminate the first anniversary equity award that was not paid by the Company to Mr. Hoang;
- To revise the Company's products and services applicable to the non-compete provision; and
- To change the notice provision to the new headquarter location in Texas and the governing law to Texas.

All other terms of Mr. Hoang's employment agreement not modified by the Amendment remain unchanged and in place.

NOTE 13: RELATED PARTY TRANSACTIONS

The Baylor College of Medicine ("BCM") Sponsored Research Agreement. On November 16, 2018, in furtherance of the BCM License Agreement and as contemplated by the terms thereof, the Company entered in a Sponsored Research Agreement ("SRA") with BCM, which provided for the conduct of research for the Company by credentialed personnel at Baylor's Center for Cell and Gene Therapy. During the quarter ended March 31, 2019, the Company paid BCM approximately $84,000 under the SRA.

The Consulting Agreement-Dr. Vera. On October 19, 2018, after the closing of the Merger, the Company entered into a consulting agreement with Dr. Juan Vera, a member of the Company's Board of Directors, to serve as the Company's Chief Development Officer. During the quarter ended March 31, 2019, Dr. Vera was paid approximately $81,000 by the Company under his consulting agreement.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

This quarterly report on Form 10-Q contains forward-looking statements within the meaning of Section 21E of the Securities and Exchange Act of 1934, as amended, that involve risks and uncertainties. All statements other than statements relating to historical matters including statements to the effect that we "believe", "expect", "anticipate", "plan", "target", "intend" and similar expressions should be considered forward-looking statements. Our actual results could differ materially from those discussed in the forward-looking statements as a result of a number of important factors, including factors discussed in this section and elsewhere in this quarterly report on Form 10-Q, and the risks discussed in our other filings with the Securities and Exchange Commission. Readers are cautioned not to place undue reliance on these forward-looking statements, which reflect management's analysis, judgment, belief or expectation only as the date hereof. We assume no obligation to update these forward-looking statements to reflect events or circumstance that arise after the date hereof.

As used in this quarterly report: (i) the terms "we", "us", "our", "Marker" and the "Company" mean Marker Therapeutics, Inc. and its wholly owned subsidiaries, Marker Cell Therapy, Inc. and GeneMax Pharmaceuticals Inc. which wholly owns GeneMax Pharmaceuticals Canada Inc., unless the context otherwise requires; (ii) "SEC" refers to the Securities and Exchange Commission; (iii) "Securities Act" refers to the Securities Act of 1933, as amended; (iv) "Exchange Act" refers to the Securities Exchange Act of 1934, as amended; and (v) all dollar amounts refer to United States dollars unless otherwise indicated.

The following should be read in conjunction with our unaudited condensed consolidated interim financial statements and related notes for the three months ended March 31, 2019 included in this quarterly report, as well as our Annual Report on Form 10-K for the year ended December 31, 2018 filed on March 15, 2019.

Company Overview

We are a clinical-stage immuno-oncology company specializing in the development and commercialization of novel cell-based immunotherapies and innovative peptide-based vaccines for the treatment of hematological malignancies and solid tumor indications. Our MultiTAA T cell technology is based on the selective expansion of non-engineered, tumor-specific T cells that recognize tumor associated antigens ("TAA" i.e. tumor targets) and kill tumor cells expressing those targets. Once infused into patients, this population of T cells recognizes multiple tumor targets to produce broad spectrum anti-tumor activity. Because we do not genetically engineer our T cells, when compared to current engineered chimeric antigen receptor ("CAR") and T cell receptor ("TCR")-based approaches, our products are significantly less expensive to manufacture and appear to be markedly less toxic, and yet are associated with meaningful clinical benefit. As a result, we believe our portfolio of T cell therapies has a compelling therapeutic product profile, as compared to current gene-modified CAR and TCR-based therapies. In addition, our Folate Receptor Alpha program (TPIV200) for breast and ovarian cancers and our HER2/neu program (TPIV100/110) are in Phase II clinical trials. In parallel, we are developing a proprietary nucleic acid-based antigen expression technology named PolyStart™ to improve the ability of the immune system to recognize and destroy diseased cells.

Immuno-oncology, which utilizes a patient's own immune system to combat cancer, is one of the most actively pursued areas of research by biotechnology and pharmaceutical companies today. Interest and excitement about immunotherapy are driven by compelling efficacy data in cancers with historically bleak outcomes, and the potential to achieve a cure or functional cure for some patients. Harnessing the power of the immune system is an important component of fighting cancerous cells in the body. Our MultiTAA T cell therapy platform identifies and selects effectively all T cells that are specific for any peptide from the antigens that we target (e.g., WT1, MAGE-A4, PRAME, Survivin, NY-ESO-1, and SSX2). Our in-vitro manufacturing process promotes proliferation of very rare cancer-killing T cells and augments their anti-tumor properties to provide benefit to patients following their infusion. By using the multi-antigen targeted approach, our proprietary technology can kill heterogeneous tumor cell populations more effectively than single-antigen targeted approaches, thereby reducing the likelihood of tumor escape and potentially increasing the durability of a patient's response to therapy.

We believe that our therapy presents a promising innovation in immuno-oncology. Our therapy has been developed through our collaboration with the Cell and Gene Therapy Center at Baylor College of Medicine ("BCM") founded by Malcolm K. Brenner, M.D., Ph.D., a recognized pioneer in immuno-oncology. Our cell therapy founders include Drs. Malcolm Brenner M.D., Ph.D., Ann Leen, Ph.D., Juan Vera, M.D., Helen Heslop, M.D., DSc (Hon) and Cliona Rooney, Ph.D., who all have significant experience in this field. Dr. James P. Allison, Dr. Malcom K. Brenner, Dr. Helen E. Heslop, Dr. Cliona M. Rooney and Dr. Padmanee Sharma serve on our Scientific Advisory Board.

Recent Developments

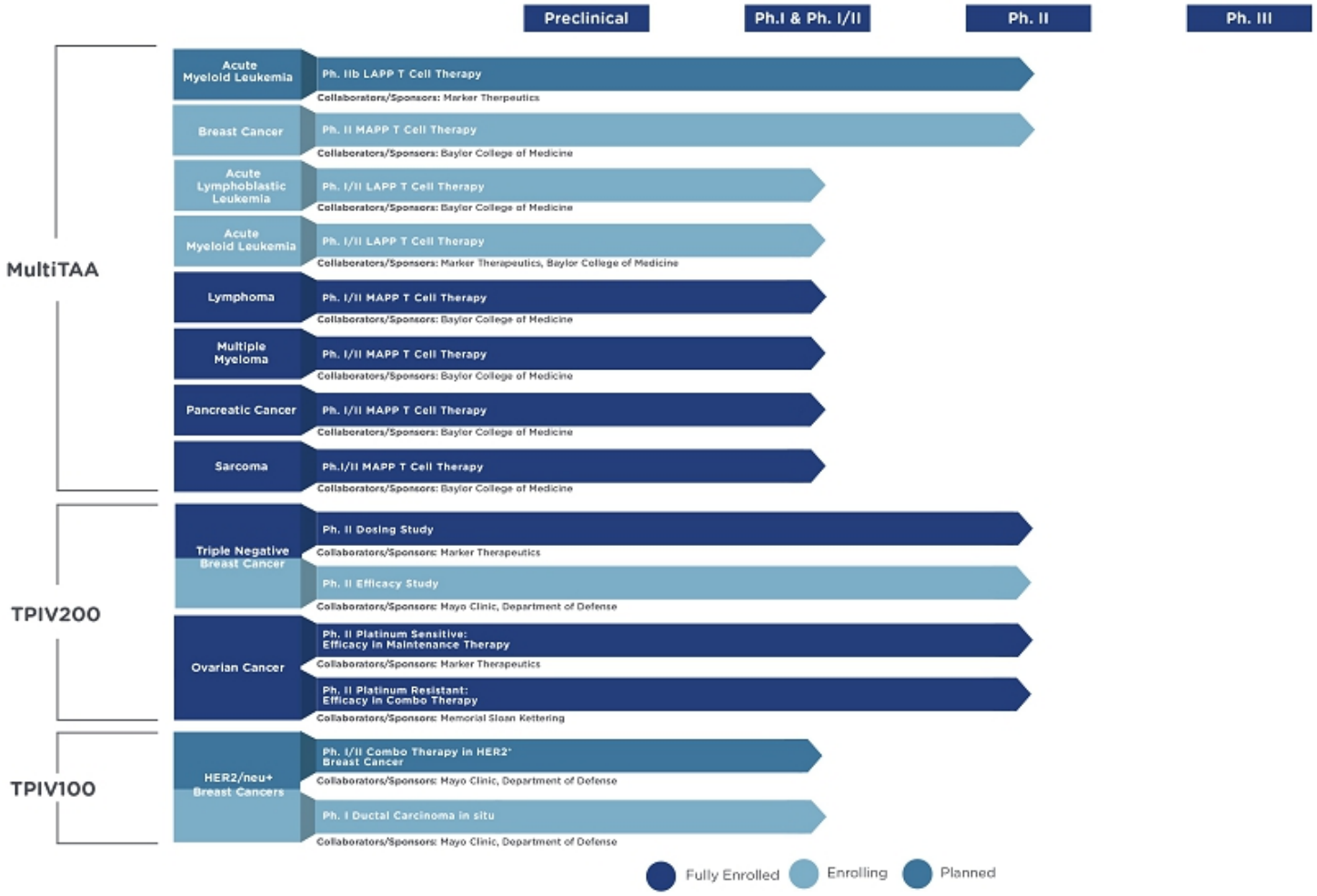
Relocation of Company Headquarters. On February 15, 2019, the Company announced it had relocated the Company's headquarters from Jacksonville, Florida to Houston Texas.

New Laboratory Facility. In connection with the relocation of the corporate headquarters, the Company also announced it had entered into an agreement with Johnson & Johnson Innovation - JLABS for the use of a dedicated portion of an existing laboratory located at the Texas Medical Center in Houston for the purpose of conducting laboratory research and other laboratory related activities. JLABS at TMC, established by Johnson & Johnson Innovation, provides research and development stage entities with access to a turnkey infrastructure that includes singular benchtops, modular wet lab units, office space and specialized laboratory equipment.

ASBMT presentation. From February 20-24, 2019, the Company presented oral and poster presentations at the Transplantation & Cellular Therapy ("TCT") Meetings of the American Society for Blood and Marrow Transplantation and the Center for International Blood and Marrow Transplant Research ("ASBMT" and "CIBMTR"). The meetings took place in Houston, Texas.

Products and Technology in Development

The following chart sets forth our products and technologies under development.



Our MultiTAA T Cell Products

We are advancing two MultiTAA T cell products through clinical development:

1) Mixed Antigen Peptide Pool ("MAPP") T cells is a product currently being studied for patients with lymphoma, multiple myeloma and selected solid tumors in Phase 1 studies. MAPP is an autologous product that targets the NY-ESO-1, PRAME, MAGE-A4, Survivin and SSX2 antigens, and
2) Leukemia Antigen Peptide Pool ("LAPP") T cells is a product currently being studied for patients with acute myeloid leukemia ("AML") and myelodysplastic syndromes ("MDS") in Phase 1 trials. LAPP is an allogeneic product targeting the WT1, NY-ESO-1, PRAME, and Survivin antigens and the stem cell transplant donor is used as the source of the cells manufactured for therapy.

While the blood source and the antigens for stimulation differ between the LAPP and the MAPP products, the manufacturing process for each product is otherwise identical.

While single-antigen specific therapy can eliminate all the tumor cells expressing the targeted antigen, the residual tumor cells that do not express that antigen may survive and expand. In addition, tumor cells may also downregulate or mutate the targeted antigen, thus becoming invisible to the T cell therapy. Both phenomena create a transformed tumor that is impervious to that therapy. This process is referred to as antigen-negative tumor escape.

Our solution to the problem of tumor heterogeneity was to develop T cell products that simultaneously attack multiple tumor-expressed antigens and thereby enable more complete initial tumor targeting, thus minimizing the subsequent opportunity for the cancer to engage escape mechanisms. Of note, data suggest that this strategy may be responsible for recruitment and activation of unique cancer-killing cells from the patient's own immune repertoire to participate in cancer eradication, further minimizing the possibility for tumor cell escape.

Our proprietary MultiTAA T cell platform may have meaningful advantages over current CAR and TCR-engineered cell therapy approaches. Compared to current gene-modified T cell therapies, our programs are characterized by the following:

•**Potential clinical benefit, without the need for lymphodepletion before infusion:** In BCM's Phase I lymphoma study, there were complete responses ("CRs") in 50 – 60% of its evaluable patients. We believe it is significant that no patient with a CR has subsequently relapsed with disease, whereas typically 30% or more of patients with CR in reported CAR-T studies relapse within one year. In patient results to date, observed therapeutic responses appear to be highly durable, with some patients being relapse-free beyond five years.

•**Non-gene-modified**: Unlike CAR and TCR-based approaches, our therapy does not require genetic modification of T cells, a costly and complex process that significantly complicates the manufacturing of a patient product. We believe our therapy can be manufactured at a fraction of the cost of a gene-modified T cell product, with substantially reduced complexity of manufacturing.

•**Low incidence rate of adverse events**: In 78 patients treated to date, there has been only one grade III adverse reaction considered possibly related to the therapy. This appears to compare favorably with published CD19 CAR-T studies, wherein up to 95% of patients had associated grade III or higher adverse events during treatment. We believe that it is notable that there have been no cases of cytokine-release syndrome ("CRS"), or related serious adverse events ("SAEs") in patients treated with MAPP or LAPP therapy to date.

•**Capable of addressing a broad repertoire of cancer cells**: While CAR-T and TCR therapies generally target a single epitope, our manufacturing process selects for T cells that are specific for multiple peptides derived from several targeted antigens. Deep gene sequencing of our products shows that a typical patient dose usually consists of approximately 4,000 unique T cell clonotypes targeting up to five different tumor-associated antigens. The five antigen targets can be recognized by a very wide range of T cells, facilitating robust killing of targeted cancer cells.

•**Appears to drive endogenous immune responses**: We see evidence of "epitope spreading" in the treated patients, meaning that our therapy is potentially inducing an enhanced response by the patient's own T cells (specific for an expanded set of tumor-associated antigens beyond those targeted by the infused product). Correlative analyses show expansion of endogenous T cells, other than those present in the infused product, in the months following infusion. This phenomenon, also known as "antigen spreading," is potentially important in generating a durable response for a patient, because it enables the killing of tumors that do not express any of the antigens initially targeted by the product.

Clinical Update on Multi-Antigen Targeted (MultiTAA) T Cell Therapies

Acute Myeloid Leukemia

We reported a clinical update from a Phase 1 clinical trial in post-transplant AML in oral and poster presentations at the American Society of Hematology ("ASH") meeting in December 2018 and the American Society for Blood and Marrow Transplantation ("ASBMT") and the Center for International Blood & Marrow Transplant Research ("CIBMTR") meeting in February 2019. Results from the BCM-sponsored study showed that the treatment is safe and well-tolerated and has the potential to mediate a meaningful anti-tumor effect, as well as *in vivo* expansion of T cells. Among the highlights from the study, 11 out of 13 patients dosed with MultiTAA T cells as a maintenance therapy after receiving allogeneic stem cell transplant remain alive, ranging from six weeks to 2.5 years post-infusion. Nine of these patients have never relapsed after MultiTAA therapy and continue to remain in complete remission (CR). Patients with active disease, overall survival ranged from four and 21 months as compared to 4.5 months in historical results after standard of care.

We will pursue post-transplant AML as the lead indication of our T cell therapy program. Based on findings from various dose cohorts in the Phase 1 BCM-sponsored trial, we have made a strategic decision to focus on post-transplant AML, and plan to initiate pre-IND discussions with the U.S. FDA in the second quarter of 2019, with an IND submission for the Company-sponsored Phase II study in the third quarter. The multicenter study will evaluate clinical efficacy of MultiTAA specific T cells in patients with AML or myelodysplastic syndromes ("MDS") in both the adjuvant and active disease setting, following an allogeneic hematopoietic stem cell transplant (HSCT). The dose administered will be the maximum tolerated dose from the BCM-sponsored Phase 1 trial. In the adjuvant setting, patients will be randomized 2:1 to either MultiTAA therapy at approximately 90 days post-transplant versus standard of care observation, while the active disease patients will receive MultiTAA T cells as part of a single-arm group.

Solid Tumors

The Phase Ib/IIa open label, unblinded study, which protocol is available on clinicaltrials.gov under the trial name TACTOPS, is a three-arm study. In the first arm of the trial, patients are those who are chemo-responsive, or patients who do not progress using standard-of-care chemotherapy. If those patients are not progressing after three rounds of chemotherapy, they would be eligible to receive our cells in six doses in alternation with their chemotherapy doses. The second arm of the trial includes patients who are chemo-refractory, or patients who have progressed after the use of GemCis chemotherapy. The third arm of the trial is for patients who have surgically resectable tumors. The surgically resectable patients will receive a dose of T cells prior to surgical resection. Once the tumor has been removed, we will be able to assess the excised tumor material for T-cell infiltration, epitope spreading and other important elements, and following such assessment, those patients would be eligible to receive a second dose of T cells after surgical resection. Of the 13 patients, seven of those patients were in Arm A, the chemo-responsive arm; two patients have been in Arm B, the chemo-refractory arm; and the remaining four patients are in Arm C, the surgically resectable arm.

Clinical trial enrollment has increased. As of the beginning of March, the trial had enrolled 30 patients, manufactured product for 23 patients was available and 13 of those patients had been dosed. We anticipate providing our first update in the MultiTAA cell therapy solid tumor program with an update in pancreatic cancer in the third quarter of 2019.

In addition to the above, the following are updates on other indications in our MultiTAA T cell therapies:

Lymphoma

T cell therapy is being evaluated at BCM in a Phase I trial in Lymphoma that has treated 15 patients with active disease ("lymphoma active group"), of which all 15 patients had completed a follow-up period beyond 3 months post-infusion, and 17 patients in remission ("lymphoma adjuvant group"). We reported the following in January 2019:

- To date, no relapses have been observed for any patient entering a complete response ("CR");
- Patients with active disease are now between 1 and 5+ years in CR after infusion of MultiTAA cells (ongoing);
- Several patients with stable disease show potential durable disease stabilization, with two patients experiencing stable disease for over nine months and 24 months, respectively; and
- Responses in all six patients who entered CR were associated with an expansion of infused T cells, as well as induction of antigen spreading.

Acute Lymphoblastic Leukemia ("ALL")

T cell therapy is being evaluated at BCM in a Phase I clinical trial for patients with ALL. As of February 2019, 18 patients have been treated. We reported the following clinical update in ALL at the ASBMT and CIBMTR meeting in February 2019:

- Patients are now up to 28 months in continued complete remission (“CCR”);
- The one patient who experienced relapse displayed mixed donor/recipient chimerism after transplant, but remained in CCR for 6 months; and
- Patients who remain in CCR have been durable for between four to 28 months, with a median of 16 months.

Multiple Myeloma

T cell therapy is being evaluated at BCM in a Phase Ib/IIa trial for patients with Multiple Myeloma. One arm of this trial assessed patients who received T cells more than 90 days after an autologous stem cell transplant (“ASCT”), while a second arm assessed patients who received T cells within 90 days of ASCT. We have not seen a meaningful difference in response rates or durability between the two arms and intend to standardize future trials based upon a protocol wherein patients will receive MAPP T cells immediately post ASCT. To date, 10 patients have been treated. We reported the following in January 2019 on the ten patients with active disease who have been treated, including:

- One patient with a CR durable for approximately 29 months before relapse, was subsequently given a second treatment infusion of MultiTAA T cells, resulting in stable disease for three months (ongoing) after the second treatment;
- Two patients achieved partial responses (“PR”) of between 14 and 22 months (ongoing) as of last follow-up;
- All seven remaining patients experienced stabilization of disease following infusion of initial MultiTAA cells. Three patients developed transient disease stabilization of between three and seven months with subsequent progression, and four patients have ongoing stable disease;
- Eight patients were treated in remission, with a median follow-up of 21 months. Only one patient has relapsed to date; and
- Correlative studies show significant expansion of MultiTAA T cells, as well as significant evidence of epitope spreading with expansion of endogenous T cells specific for tumor-associated antigens that were not targeted by the MultiTAA product.

Our Folate Receptor Products

Folate Receptor alpha (“FRa”) is overexpressed in over 80% of breast cancers and in addition, over 90% of ovarian cancers, for which the only treatment options are surgery, radiation therapy and chemotherapy, creating a very important and urgent clinical need for a new therapeutic strategy. Time to recurrence is relatively short for ovarian cancer and survival prognosis is extremely poor after recurrence. In the United States alone, there are approximately 30,000 ovarian cancer patients and 40,000 triple-negative breast cancer patients newly diagnosed every year. The FRa vaccine (now called TPIV200) intended to treat these conditions is composed of a mixture of five Fra-derived immunogenic peptides adjuvanted with low-dose granulocyte-macrophage colony-stimulating factor (“GM-CSF”).

GMP Manufacturing Scale Up of TPIV200 and Production to Supply Additional Phase II Clinical Trials

We have developed a commercial-quality lyophilized formulation of the TPIV200 peptides in a single vial for reconstitution and injection. Multi-gram peptide production scale-up has been successfully concluded, and so has the GMP manufacturing of a recent clinical lot of the TPIV200 peptides. The supply will be used in the company’s ongoing Phase II study in platinum-sensitive ovarian cancer, as well as the 280-patient Phase II study sponsored by the Mayo Foundation and funded by the U.S. Department of Defense (“DoD”) for treating triple-negative breast cancer. We also made various improvements to the vaccine manufacturing process, resulting in what we believe to be a superior formulation of the vaccine that is more amenable to large-scale manufacturing and commercialization. Thus, Good Manufacturing Practice (“GMP”) manufacturing development for the Phase II trials has been completed.

***Phase I Human Clinical Trial* – Folate Receptor Alpha Breast and Ovarian Cancers – Mayo Foundation**

On July 27, 2015, we exercised our option agreement with Mayo Foundation with the signing of a worldwide exclusive license agreement to commercialize the proprietary FRa vaccine technology for all cancer indications. As part of this agreement, the IND for the Folate Receptor alpha Phase I trial was transferred from Mayo Foundation to the Company for Phase II clinical trials as our lead peptide vaccine product.

The results from the initial 21-patient Phase I clinical trial for the FRa vaccine have now been reported. Twenty-one patients with breast or ovarian cancer, who had undergone standard surgery and adjuvant treatment, were treated with one cycle of cyclophosphamide. Following this, patients were vaccinated intradermally with TPIV200 on day one of a 28-day cycle for a maximum of six vaccination cycles. On March 15, 2018, we announced the publication of the clinical data from this trial. The results show that over 90% of patients developed robust and durable antigen-specific immune responses against FRa without regard for HLA type, which aligns with the intended mechanism of action of the vaccine. TPIV200 vaccine was safe and well-tolerated; 20 out of 21 evaluable patients showed positive immune responses, providing a strong rationale for progressing to Phase II trials. Further, the data showed that 16 out of 16 patients in the observation stage showed persistent immune responses (Source: published online 15Mar2018; DOI: 10.1158/1078-0432.CCR-17-2499).

Phase II Development of TPIV200 for Triple-negative Breast Cancer

Triple-negative breast cancer ("TNBC") is one of the most difficult cancers to treat and represents a clear unmet medical need. On September 15, 2015, we announced that our collaborators at the Mayo Foundation had been awarded a grant of $13.3 million from the DoD. This grant led by Dr. Keith Knutson of the Mayo Clinic in Jacksonville, Florida covers the costs for a 280-patient Phase II clinical trial of the FRa vaccine in patients with TNBC. We are working closely with the Mayo Foundation on this clinical trial by providing clinical and manufacturing expertise, as well as providing GMP vaccine formulations under contract. This Phase II study of TPIV200 in the treatment of triple-negative breast cancer began enrolling patients in late 2017 and enrollment continues. Details regarding this trial can be found at www.clinicaltrials.gov under identifier numbers NCT03012100 and RU011501I.

On June 21, 2016, we announced the initiation of a randomized four-arm Phase II trial of TNBC that is sponsored and conducted by the Company (FRV-002), enrolling women with stage I-III disease who have completed initial surgery and chemo/radiation therapy. This open-label, 80-patient clinical trial is designed to evaluate dosing regimens, pre-treatment, efficacy, and immune responses. The study is evaluating two doses of TPIV200 (a high dose and a low dose), each of which will be tested both with and without cyclophosphamide prior to vaccination. Key data from the trial are expected to be included in a future Biologics License Application submission to the FDA for marketing clearance. We completed enrollment in late 2017 and are now treating and following the patients. An independent Data Safety Monitoring Board ("DSMB") reviews the safety in this ongoing Phase II study; no safety issues have been identified to date. Details regarding this trial can be found at www.clinicaltrials.gov under the identifier number NCT02593227.

Phase II Development of TPIV200 for Ovarian Cancer

On December 9, 2015, we announced that we received Orphan Drug Designation from the U.S. Food & Drug Administration's Office of Orphan Products Development ("OOPD") for our cancer vaccine TPIV200 in the treatment of ovarian cancer. The TPIV200 ovarian cancer clinical program will now receive benefits including tax credits on clinical research and seven-year market exclusivity upon receiving marketing approval. TPIV200 is a multi-epitope peptide vaccine that targets Folate Receptor alpha which is overexpressed in multiple cancers including over 90% of ovarian cancers. On February 3, 2016, we announced that the U.S. FDA designated the investigation of the multiple-epitope TPIV200 vaccine for maintenance therapy in subjects with platinum-sensitive advanced ovarian cancer who achieved stable disease or partial response following completion of standard-of-care chemotherapy, as a Fast Track Development Program.

On April 21, 2016, we announced our participation in an ovarian cancer study sponsored by Memorial Sloan Kettering Cancer Center ("MSKCC") in New York City in collaboration with AstraZeneca Pharmaceuticals in ovarian cancer patients who are not responsive to platinum, a commonly used chemotherapy for ovarian cancer. This study, an open-label Phase II study of TPIV200 in 40 patients is designed to look at the effects of combination therapy with AstraZeneca's checkpoint inhibitor durvalumab (anti-PD-L1). Interim results from the first 27 patients were presented at the AACR-Rivkin Symposium in September 2018; safety of the combination was established in these heavily-pretreated patients and a subset of patients exhibited durable disease stabilization. ORR and PFS with combination treatment was not superior from the expected efficacy of single-agent PD-1/PD-L1 blockade. However, post-immunotherapy follow-up was suggestive of improved clinical benefit from standard therapies, as the majority of patients post-progression went on to receive subsequent standard therapy with durable clinical benefit, creating a rationale for exploration of these agents in combination with chemotherapy. Although we have no business relationship with AstraZeneca, we are paying for one-half of the costs of the clinical study, in addition to providing our TPIV200 for the study. Details regarding this trial can be found at www.clinicaltrials.gov under identifier numbers NCT02764333.

On January 10, 2017, we announced the initiation of a Company-sponsored Phase II study in platinum-sensitive ovarian cancer patients (FRV-004). This multi-center, double-blind efficacy study is designed to evaluate TPIV200 compared to GM-CSF alone in a randomized, placebo-controlled fashion during the first maintenance period after primary surgery and chemotherapy. We have opened multiple clinical sites and enrollment of the 120 patients has been completed ahead of schedule. The 120th subject was given the study drug on December 10, 2018. Safety is reviewed by an independent DSMB quarterly and an interim efficacy analysis is planned in 2019, once 55 patients have progressed. Details regarding this trial can be found at www.clinicaltrials.gov under the identifier number NCT02978222.

TPIV 100/110 – HER2/neu peptides with GM-CSF

Human epidermal growth factor receptor 2 ("HER2/neu") amplification/overexpression results in an effective therapeutic target in breast and gastric cancer. Over-expressed HER2 is detected predominantly in malignancies of epithelial origin, such as breast, gastric, esophageal, colorectal, salivary gland, pancreatic, epithelial ovarian, endometrial, and bladder carcinomas, as well as gallbladder and extrahepatic cholangiocarcinomas. HER2 is over-expressed in approximately 25% of breast cancers and its expression is associated with unfavorable pathologic features and aggressive disease if not treated with targeted therapies, relative to other forms of breast cancer. While the outcome of patients with HER2 positive breast cancer has significantly improved in the past few decades with an advent of anti-HER2 therapies, a substantial number of resected patients subsequently develop metastatic disease. The continued prevalence of these cancers represents a high unmet medical need, justifying the targeted development of immunotherapeutic strategies.

We have added a major histocompatibility complex ("MHC") class I-restricted peptide, also licensed from the Mayo Foundation on April 16, 2012, to the four MHC class II-restricted peptides present in TPIV100, resulting in TPIV 110 after the five peptides are mixed with GM-CSF. Management believes that the combination of MHC class I and class II-restricted HER2/neu antigens, gives the Company the leading HER2/neu vaccine platform. We have amended the IND to incorporate the fifth peptide and will use TPIV110 in subsequent studies with the goal of producing an even more robust vaccine activating both $CD4^+$ (helper) and $CD8^+$ (killer) T cells.

Transition of the HER2/neu Vaccine

On June 7, 2016, we announced that the Company had exercised its option agreement with Mayo Foundation and signed a worldwide license agreement to the proprietary HER2/neu vaccine technology. The license gives the Company the right to develop and commercialize the technology in any cancer indication in which the Her2/neu antigen is overexpressed. As part of this agreement, the IND for the HER2/neu Phase I Trial was transferred from Mayo Foundation to the Company for Phase II clinical trials as TPIV100, our second vaccine product.

***Phase I Human Clinical Trial* – HER2/neu$^+$ Breast Cancer – Mayo Foundation**

A Phase I study using a vaccine containing four MHC class II-restricted HER2/neu peptides in combination with GM-CSF (now called TPIV100) was initiated in 2012 at the Mayo Clinic and the primary readout was completed in 2015. Final safety analysis on all the patients treated showed that the vaccine was safe in that context. In addition, 19 out of 20 evaluable patients showed robust T-cell immune responses to the antigens in the vaccine, providing a case for advancement to Phase II. Data from the study were presented at the San Antonio Breast Cancer Symposium on December 10, 2015. An additional secondary endpoint incorporated into this Phase I Trial was a two-year follow-on recording the time to disease recurrence in the participating breast cancer patients. Details regarding this trial can be found at www.clinicaltrials.gov under the identifier number NCT01632332.

On March 14, 2017, we announced that our partners at the Mayo Clinic received a $3.8 million grant from the DoD to conduct a Phase Ib study of the HER2-targeted vaccine candidate (TPIV100) in an early form of breast cancer called ductal carcinoma in situ ("DCIS"). This is the second Company vaccine to be tested in a fully-funded study sponsored by the Mayo Foundation. We are working closely with the Mayo Foundation on this clinical trial by providing clinical and manufacturing expertise, as well as providing GMP vaccine formulations under contract. If the study is successful, our HER2/neu vaccine may eventually augment or even replace standard surgery and chemotherapy, and potentially could become part of a routine immunization schedule for preventing breast cancer in healthy women. The study is expected to enroll 40 – 45 women with DCIS and commenced such enrollment during the first quarter of 2019.

Phase II Development of the HER2/neu TPIV100 Vaccine

On October 10, 2018, we announced that the Mayo Clinic had been awarded a grant of $11 million from the DoD. This grant is intended to cover the costs of a large randomized, double-blind Phase II study of the Company's HER2/neu-targeted breast cancer vaccine, TPIV100. 190 patients will be randomized, in a 2:1 fashion, to receive TPIV100 plus maintenance ado-trastuzumab emtansine (T-DM1) or maintenance T-DM1with placebo plus GM-CSF. We are working closely with Mayo Foundation on this clinical trial by providing clinical and manufacturing expertise, as well as providing GMP vaccine formulations under contract. The study will ask whether the administration of vaccine during T-DM1 maintenance therapy in patients with residual disease post-neoadjuvant chemotherapy effectively blocks disease recurrence and the development of metastatic breast cancer. By prevention of recurrence and metastasis, the expectation is that mortality associated with breast cancer will be decreased.

Products and Technology – Pre-clinical

Polystart

In addition to the clinical developments, our T cell therapies and peptide vaccine technology can be coupled with our PolyStart™ nucleic acid-based platform, which is designed to make T cell therapies and vaccines significantly more effective by producing four times the required peptides for the immune systems to recognize and act on.

Results of Operations

In this discussion of the Company's results of operations and financial condition, amounts, other than per-share amounts, have been rounded to the nearest thousand dollars.

Three Months Ended March 31, 2019 Compared to Three Months Ended March 31, 2018

We recorded a net loss of $5.3 million or ($0.12) basic and diluted per share during the three months ended March 31, 2019 compared to a net loss of $3.2 million or ($0.30) basic and diluted per share during the three months ended March 31, 2018. The change in net loss period over period was due to the following changes:

Operating Expenses

Operating expenses incurred during the three months ended March 31, 2019 were $5.6 million compared to $3.2 million in the prior period. Significant changes in operating expenses are outlined as follows:

- Research and development costs during the three months ended March 31, 2019 were $2.8 million compared to $1.6 million during the prior year period.

  Our research and development expenses are highly dependent on the phases of our research projects and therefore fluctuate from period to period.

  The three months ended March 31, 2019 had increased expenses from the prior period due to increased headcount-related expenses, stock-based compensation expenses and consulting expenses resulting from the build-up of our internal infrastructure as we advance the clinical development of our MultiTAA T cell products.

- General and administrative expenses were $2.8 million during the three months ended March 31, 2019 as compared to $1.6 million during the prior year period. This increase was due to increased expenses relating to:

  - $0.3 million of headcount-related expenses,
  - $0.1 million of legal, accounting and other professional expenses,
  - $0.1 million of office and insurance expenses, and
  - $0.6 million of stock-based compensation expenses.

Other Expense

Change in fair value of warrant liabilities

The change in fair value of warrant liabilities for the three months ended March 31, 2019 was $9,000 as compared to ($1,000) for the three months ended March 31, 2018. This increase by $9,000 during the three months ended March 31, 2019 is reflected by a corresponding increase in other expense in the condensed consolidated statement of operations.

Interest income

Interest income was approximately $0.3 million for the quarter ended March 31, 2019 and was attributable to interest income relating to a significant portion of the net proceeds received from our equity financing in October 2018 which are held in U.S. Treasury notes and U.S. government agency-backed securities with maturities of less than three months.

Liquidity and Capital Resources

We have not generated any revenues since inception other than revenue from grants we received. We have financed our operations primarily through public and private offerings of our stock and debt including warrants and the exercises thereof.

The following table sets forth our cash and working capital as of March 31, 2019 and December 31, 2018:

	March 31, 2019	December 31, 2018
Cash and cash equivalents	$ 57,707,000	$ 61,747,000
Working Capital	$ 55,093,000	$ 59,193,000

Cash Flows

The following table summarizes our cash flows for the three months ended March 31, 2019 and 2018:

	For the Three Months Ended March 31,	
	2019	2018
Net Cash provided by (used in):		
Operating activities	$ (3,880,000)	$ (2,346,000)
Investing activities	(223,000)	-
Financing activities	63,000	18,000
Net decrease in cash	$ (4,040,000)	$ (2,328,000)

Operating Activities

During the three months ended March 31, 2019 and 2018, net cash outflows from operations were $3.9 million and $2.3 million, respectively.

Net cash used in operating activities for the three months ended March 31, 2019 was comprised of a net loss of $5.3 million, which included share-based compensation expense of $1,526,000, non-cash depreciation expense of $11,000, an increase in change in fair value of warrant liabilities of $9,000 and an increase in amortization on right-of-use assets of $44,000. Net cash used in operating activities also included the effect of changes in asset and liability accounts, including a decrease in prepaids of $75,000, a decrease in accounts payable and accrued liabilities of $28,000, a decrease in interest receivable of $4,000 and a decrease in lease liabilities of $45,000.

Net cash used in operating activities for the three months ended March 31, 2018 was comprised of a net loss of $3.2 million, which included share-based compensation expense of $136,000 and a decrease in change in fair value of warrant liabilities of $1,000. Net cash used in operating activities also included the effect of changes in asset and liability accounts, including a decrease in prepaids of $78,000 and an increase in accounts payable and accrued liabilities of $793,000.

Investing Activities

During the three months ended March 31, 2019, we purchased $0.2 million in property and equipment.

Financing Activities

We received approximately $63,000 and $18,000 cash proceeds from exercises of common stock warrants and options during the three months ended March 31, 2019 and 2018, respectively.

Financings

Our major sources of funding have been proceeds from various public and private offerings of our equity securities from option and warrant exercises, and from interest income.

May 2018 Private Placement Transaction Common Stock Purchase Agreement

On May 18, 2018, we closed on the sale of 1,300,000 shares of common stock for $2.40 per share pursuant to a Common Stock Purchase Agreement with an existing accredited investor in a private placement under Rule 506 of Regulation D pursuant to the terms of a Common Stock Purchase Agreement. Aggregate gross proceeds were approximately $3.1 million.

May 2018 Exercise of Warrants Held by Existing Institutional Investors

Also on May 18, 2018, we and certain existing institutional investors, who are holders of various warrants to purchase shares of Company common stock, closed on Warrant Exercise Agreements in which we agreed to reduce the exercise price for a portion of the investors' previously purchased Series C, Series D, Series E and Series F warrants from $6.00, $9.00, $15.00 and $7.20, respectively per share to $2.50 per share, provided that the investors exercise such warrants for cash immediately, which they did, for 782,506 shares and aggregate proceeds of approximately $2.0 million.

October 2018 Private Placement Transaction

On October 17, 2018, concurrent with the completion of the Merger, we issued to certain accredited investors in a private placement transaction an aggregate of 17,500,000 shares of its common stock, and warrants to purchase 13,437,500 shares of common stock at an exercise price of $5.00 per share with a five-year term, for aggregate proceeds of $70.0 million pursuant to the terms of the Securities Purchase Agreements, dated June 8, 2018, by and among us and certain accredited investors.

Exercise of Stock Warrants

During the three months ended March 31, 2019, certain outstanding warrants were exercised by a warrant holder providing aggregate proceeds to the Company of approximately $5,400 and resulted in the issuance of 1,799 shares of common stock.

Exercise of Stock Options

In January 2019, 11,980 shares of common stock were issued pursuant to stock option exercises at an exercise price equal to $4.82 per share.

Future Capital Requirements

As of March 31, 2019, we had working capital of $55.1 million, compared to working capital of $59.2 million as of December 31, 2018.

Our primary uses of capital are, and we expect will continue to be, compensation and related expenses, third-party clinical and research and development services, laboratory and related supplies, clinical costs, legal and other regulatory expenses, facility costs and general overhead costs.

The successful development of any of our product candidates is highly uncertain. As such, at this time, we cannot reasonably estimate or know the nature, timing and costs of the efforts that will be necessary to complete the development of our product candidates. We are also unable to predict when, if ever, material net cash inflows will commence from the sale of product candidates. This is due to the numerous risks and uncertainties associated with developing medical treatments, including, but not limited to, the uncertainty of:

- successful enrollment in, and successful completion of, clinical trials;
- receipt of marketing approvals from applicable regulatory authorities;
- making arrangements with third-party manufacturers;
- obtaining and maintaining patent and trade secret protection and regulatory exclusivity;
- launching commercial sales of our products, if and when approved, whether alone or in collaboration with others; and market acceptance of our products, if and when approved;
- successfully negotiating reimbursement for our products from various third-party payors; and
- the ability to successfully manufacture patient doses.

A change in the outcome of any of these variables with respect to the development of any of our product candidates would significantly change the costs and timing associated with the development of our product candidates.

Because all of our product candidates are in the early stages of clinical and preclinical development and the outcome of these efforts is uncertain, we cannot estimate the actual amounts necessary to successfully complete the development and commercialization of product candidates or whether, or when, we may achieve profitability. Until such time, if ever, that we can generate substantial product revenue, we expect to finance our cash needs through a combination of equity or debt financings and collaboration arrangements.

We plan to continue to fund our operations and capital funding needs through equity and/or debt financing. We may also consider new collaborations or selectively partner our technology. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the ownership interests of our stockholders will be diluted, and the terms may include liquidation or other preferences that adversely affect the rights of our existing stockholders. The incurrence of indebtedness would result in increased fixed payment obligations and could involve certain restrictive covenants, such as limitations on our ability to incur additional debt, limitations on our ability to acquire or license intellectual property rights and other operating restrictions that could adversely impact our ability to conduct our business. If we raise additional funds through strategic partnerships and alliances and licensing arrangements with third parties, we may have to relinquish valuable rights to our technologies or product candidates or grant licenses on terms unfavorable to us. Any of these actions could harm our business, results of operations and future prospects.

Critical Accounting Policies

The condensed consolidated financial statements are prepared in conformity with U.S. GAAP, which require the use of estimates, judgments and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent liabilities at the date of the financial statements, and the reported amounts of expenses in the periods presented. We believe that the accounting estimates employed are appropriate and resulting balances are reasonable; however, due to inherent uncertainties in making estimates, actual results could differ from the original estimates, requiring adjustments to these balances in future periods. The critical accounting estimates that affect the consolidated financial statements and the judgments and assumptions used are consistent with those described under Part II, Item 7 of our Annual Report on Form 10-K for the year ended December 31, 2018.

Off-Balance Sheet Arrangements

We have not entered into any off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes of financial condition, revenues, expenses, results of operations, liquidity, capital expenditures or capital resources that are material to investors.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

We are a smaller reporting company as defined by Rule 12b-2 of the Exchange Act and are not required to provide the information required under this item.

Item 4. Controls and Procedures

(a) Evaluation of Disclosure Controls and Procedures

We maintain disclosure controls and procedures that are designed to ensure that information required to be disclosed in our reports under the Securities Exchange Act of 1934, as amended, or the Exchange Act, is recorded, processed, summarized and reported within the time periods specified in the Securities and Exchange Commission's rules and forms, and that such information is accumulated and communicated to our management, including our principal executive officer and our principal financial officer, as appropriate, to allow timely decisions regarding required disclosure. In designing and evaluating the disclosure controls and procedures, management recognized that any controls and procedures, no matter how well designed and operated, can only provide reasonable assurance of achieving the desired control objectives, and in reaching a reasonable level of assurance, management necessarily was required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Under the supervision of and with the participation of our management, including the Company's Chief Executive Officer and Chief Financial Officer, we evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act) as of March 31, 2019. Based upon that evaluation, our Chief Executive Officer and Chief Financial Officer concluded that, because of a material weakness in our internal controls over financial reporting, our disclosure controls and procedures were not effective for the reasons described below. Notwithstanding the material weakness described below, the Company's management, including the Chief Executive Officer and Chief Financial Officer, has concluded that the consolidated financial statements included in the Quarterly Report and in this Form 10-Q are fairly stated, in all material respects, in accordance with generally accepting accounting principles in the United States for each of the periods presented herein.

During the first quarter of fiscal year 2019, we, together with our independent registered public accounting firm, identified a material weakness in our internal control over financial reporting, as described below. A "material weakness" is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the company's annual or interim financial statements will not be prevented or detected on a timely basis. The material weakness in internal control over financial reporting resulted from ineffective controls related to the timing of recording non-cash stock-based compensation expenses on select stock option grants; grants which had vesting schedules that differed from the previously-standard vesting schedules. To remediate the material weakness, we are initiating controls and procedures in order to:

- Reinforce the importance of a strong control environment, to emphasize the technical requirements for controls that are designed, implemented and operating effectively and to set the appropriate expectations on internal controls through establishing the related policies and procedures;
- Review the categories that are underlying the calculations related to stock-based compensation, and revised procedures for the calculation and review of effects from granted, forfeited and expired options; and most importantly
- Transition the manual calculation of stock-based compensation expenses to a third-party automated software system.

(b) Changes in Internal Control Over Financial Reporting

There were no other changes in our internal controls over financial reporting during the three months ended March 31, 2019 that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

As of March 31, 2019, we were not a party to any material legal proceedings.

Item 1A. Risk Factors

See the Company's most recent annual report filed on Form 10-K for the year ended December 31, 2018 filed on March 15, 2019 (Part I, Item 1A). There has been no material change in this information. The risks described in the annual report on Form 10-K, either alone or taken together, could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our company. The risks and uncertainties described below are not the only ones we face. Additional risks not currently known to us or other factors not perceived by us to present significant risks to our business at this time also may impair our business operations.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds

(a) We issued the following unrestricted securities during the period covered by this report to the named individual pursuant to exemptions under the Securities Act of 1933 including Section 4(2):

On January 14, 2019, we issued 15,000 shares of common stock to Omnicor Media, LLC pursuant to a vendor agreement.

On March 20, 2019, we issued 15,000 shares of common stock to Omnicor Media, LLC pursuant to a vendor agreement.

Item 3. Defaults Upon Senior Securities

None.

Item 4. Mine Safety Disclosure

Not applicable.

Item 5. Other Information

Not applicable.

Item 6. Exhibits

The following exhibits are included with this Quarterly Report on Form 10-Q:

Exhibit number	Exhibit description	Incorporated by Reference				Filed herewith
		Form	File no.	Exhibit	Filing date	
3.1	Certificate of Incorporation	8-K	001-37939	3.4	10/17/18	
3.2	Bylaws of Marker Therapeutics, Inc.	8-K	000-27239	3.6	10/17/18	
10.1	Employment Agreement between TapImmune Inc. and Peter Hoang dated as of September 22, 2017*	8-K	001-37939	10.1	9/25/17	
10.2	Amendment to Employment Agreement between Marker Therapeutics, Inc. and Peter Hoang, dated March 14, 2019*	10-K	001-37939	10.40	3/15/19	
10.3	Employment Agreement by and between Mythili Koneru and the Company dated February 6, 2019*					X
31.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1933, as amended.					X
31.2	Certification of Chief Financial Officer and Chief Accounting Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1933, as amended.					X
32.1	Certification of Chief Executive Officer Pursuant to Rule 13a-14(a) or 15d-14(a) of the Securities Exchange Act of 1933, as amended.					X
32.2	Certification of Chief Financial Officer and Chief Principal Accounting Officer pursuant to 18 U.S.C. 1350 as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.					X

*Executive management contract or compensatory plan or arrangement.

Exhibit 101

101.INS - XBRL Instance Document
101.SCH - XBRL Taxonomy Extension Schema Document
101.CAL - XBRL Taxonomy Extension Calculation Linkbase Document
101.DEF - XBRL Taxonomy Extension Definition Linkbase Document
101.LAB - XBRL Taxonomy Extension Label Linkbase Document
101.PRE - XBRL Taxonomy Extension Presentation Linkbase Document

SIGNATURES

In accordance with the requirements of the Exchange Act, the registrant caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Date: May 10, 2019

MARKER THERAPEUTICS, INC.

/s/ Peter L. Hoang

Peter L. Hoang
President and Chief Executive Officer and Principal Executive Officer

/s/ Anthony Kim

Anthony Kim
Chief Financial Officer and Principal Accounting Officer

Exhibit 10.3

MARKER THERAPEUTICS, INC.

EMPLOYMENT AGREEMENT

This EMPLOYMENT AGREEMENT, effective as of February 6, 2019 (the **"Effective Date"),** is by and between Marker Therapeutics, Inc. a Delaware corporation (the **"Company"),** having offices at 3200 Southwest Freeway #2240, Houston, Texas 77027 and at 5 W Forsyth St, Jacksonville, FL 32202 (the **"Company Premises")** and Mythili Koneru, M.D. Ph.D. (the "Executive").

WHEREAS, the Company desires to employ Executive as its Senior Vice President Clinical Development and to provide Executive with certain compensation and benefits in return for Executive's services, and Executive agrees to be retained by the Company in such capacity and to receive the compensation and benefits on the terms and conditions set forth herein;

WHEREAS, the Company and Executive desire to enter into this Employment Agreement (the **"Agreement")** effective as of the Effective Date in order to memorialize the terms and conditions of Executive's employment by the Company upon and following the Effective Date; and

WHEREAS, Executive's agreement to and compliance with the provisions in Sections 9 through 11 of this Agreement are a material factor, material inducement and material condition to the Company's entering into this Agreement. Moreover, Executive acknowledges that a substantial portion of the value of the employment of Executive is Executive's promises to refrain from competing with the Company as identified in Sections 9 through 11 of this Agreement.

NOW, THEREFORE, in consideration of the premises and mutual covenants contained herein and for other good and valuable consideration, the parties agree as follows:

1. At-Will Employment. The Company and Executive acknowledge that either party has the right to terminate Executive's employment with the Company at any time for any reason whatsoever, with or without cause, subject to the provisions of Section 6 and 7 herein. This at-will employment relationship cannot be changed except in a writing signed by both Executive and the Board of Directors of the Company (or a duly authorized committee thereof, if applicable) (the **"Board").** Any rights of Executive to additional payments or other benefits from the Company upon any such termination of employment shall be governed by Section 7 of this Agreement.

2. Position. Executive shall serve as the Senior Vice President Clinical Development of the Company with the responsibilities, rights, authority and duties pertaining to such offices as are established from time to time by the Chief Executive Officer of the Company, and Executive shall report to the Chief Executive Officer of the Company. Executive shall also act as an officer and/or director and/or manager of such Affiliates of the Company as may be designated by the Chief Executive Officer of the Company from time to time, commensurate with Executive's office, all without further compensation, other than as provided in this Agreement. As used herein, **"Affiliate"** means any entity that directly or indirectly controls, is controlled by, or is under common control with, the Company.

3. Commitment. Executive will devote substantially all of her business time and best efforts to the performance of her duties hereunder; provided, however, that Executive shall be allowed, to the extent that such activities do not interfere with the performance of her duties and responsibilities hereunder and do not conflict with the financial, fiduciary or other interests of **the** Company (or its Affiliates), as determined in the sole discretion of the Chief Executive Officer of the Company, to manage her passive personal investments and to serve on corporate, civic, charitable and industry boards or committees. Notwithstanding the foregoing, Executive agrees that she shall only serve on for-profit boards of directors or for-profit advisory committees if such service is approved in advance in the sole discretion of the Chief Executive Officer of the Company.

4. Compensation.

(a) Base Salary. During Executive's employment with the Company, effective as of the Effective Date, the Company shall pay Executive a base salary at the annual rate of Three Hundred Fifty thousand dollars ($350,000), less payroll deductions and withholdings, which shall be payable in accordance with the standard payroll practices of the Company. Executive's base salary shall be subject to periodic review and upward adjustment by the Board from time to time in the discretion of the Board.

(b) Annual Performance Bonus. For each calendar year, Executive shall be eligible to receive an annual performance bonus **("Annual Performance Bonus")** from the Company, with the target amount of such bonus equal to thirty-five percent (35%) of Executive's annual base salary. The Annual Performance Bonus will be based on achievement of individual and/or Company goals which are established by the Board (or duly authorized committee thereof), in its sole discretion at the beginning of each calendar year. Following the close of each calendar year, the Board (or duly authorized committee thereof), will determine whether Executive has earned an Annual Performance Bonus, and the amount of any such bonus. Payment of the Annual Performance Bonus shall be expressly conditioned upon Executive's employment with the Company on the date that the Annual Performance Bonus is paid, except as provided in Section 7(b) and Section 7(c) below. The Annual Performance Bonus shall be paid within ninety (90) days after the end of the calendar year for which it relates and may be payable in such portion of cash and stock as the Board (or duly authorized committee thereof), shall determine in its sole discretion. Executive's target Annual Performance Bonus will be subject to periodic review and adjustment by the Board from time to time.

(c) Equity Awards. Within ten days of your starting employment with the Company, the Company will recommend to the Board of Directors that you be eligible to receive 300,000 stock options under the Company's 2014 Omnibus Stock Ownership Plan as amended (the "Plan"). From time to time, Executive will be eligible to participate in and receive stock option or equity award grants under the Plan in accordance with the terms and conditions of such Plan or plans in existence at that time, in the discretion of the Board.

(d) Reimbursement of Business Expenses and Commuting. The Company shall reimburse Executive for reasonable travel and other business expenses incurred by Executive in the performance of her duties hereunder, in accordance with the Company's policies as in effect from time to time.

(e) Signing Bonus. To compensate you for a bonus you have indicated would shortly be due you from your present employer if you were to remain with that employer, the Company within ten days of your starting employment with the Company: a) will pay you $50,000; and, b) will recommend to the Board of Directors that you be eligible to receive 10,000 stock options under the Company's 2014 Omnibus Stock Ownership Plan. The Company will recommend to the Board of Directors that these 10,000 stock options will vest immediately upon your receipt.

(f) Reimbursement of Legal Expenses. Within ten days of presentation to Company of adequate documentation of legal expenses incurred with respect to entering into employment with the Company, Executive will be reimbursed up to $4,000.00.

5. Benefits. Subject to applicable eligibility requirements, Executive shall be entitled to participate in all benefit plans and arrangements and fringe benefits and programs that may be provided to senior executives of the Company from time to time, subject to plan terms and generally applicable Company policies. Executive is entitled to participate in personal time off and holiday benefits, in accordance with the Company's policies as in effect from time to time.

6. Termination.

(a) Termination. The employment of Executive under this Agreement shall terminate upon the earliest to occur of any of the following events:

(i) the death of Executive;

(ii) the termination of Executive's employment by the Company due to Executive's Disability pursuant to Section 6(b) hereof;

(iii) the termination of Executive's employment by Executive other than for Good Reason (as hereinafter defined);

(iv) the termination of Executive's employment by the Company without Cause (termination for Cause being defined in Section 6(c) and requiring the Notice of Termination for Cause, if applicable, as described in Section 6(c) and 6(d));

(v) the termination of Executive's employment by the Company for Cause pursuant to Section 6(c) after providing the Notice of Termination for Cause, if applicable, as described in Section 6(c) and Section 6(d);

(vi) the termination by Executive of Executive's employment for Good Reason (as hereinafter defined) pursuant to Section 6(e); or

(vii) the termination of Executive's employment upon mutual agreement in writing between the Company and Executive.

(b) Disability. For purposes of this Agreement, **"Disability"** means that Executive has been unable, for ninety (90) consecutive days, or for periods aggregating one hundred and twenty (120) business days in any period of twelve consecutive months, to perform Executive's duties under this Agreement with or without reasonable accommodation, as a result of physical or mental impairment, illness or injury, as determined in good faith by the Board. A termination of Executive's employment for Disability shall be communicated to Executive by written notice and shall be effective on the 10th day after sending such notice to Executive (the **"Disability Effective Date"),** unless Executive returns to performance of Executive's duties before the Disability Effective Date.

(c) Cause. For purposes of this Agreement, the term **"Cause"** shall mean (i) Executive's willful misconduct which is demonstrably and materially injurious to the Company's reputation, financial condition, or business relationships; (ii) the failure of Executive to attempt in good faith to follow the legal written direction of the Board; (iii) the failure by Executive to attempt in good faith to perform the duties required of her hereunder (other than any such failure resulting from incapacity due to physical or mental illness) within ten (10) days after a written demand for substantial performance is delivered to Executive by the Board which specifically identifies the manner in which it is believed that Executive has failed to attempt to perform her duties hereunder; (iv) Executive being convicted of, indicted for, or pleading guilty or nolo contendere to, a felony or any crime involving dishonesty, fraud or moral turpitude; (v) Executive's dishonesty with regard to the Company or in the performance of her duties hereunder, which in either case has a material adverse effect on the Company; (vi) Executive's material breach of this Agreement unless corrected by Executive within ten (10) days of the Company's written notification to Executive of such breach; or, (vii) Executive's failure to comply in any material respect with the Company's policies and/or procedures, unless corrected by Executive within ten (10) days of the Company's written notification to Executive of such breach.

(d) Notice of Termination for Cause. Notice of Termination for Cause shall mean a written notice to Executive that shall indicate the specific termination provision in Section 6(c) relied upon and shall set forth in reasonable detail the facts and circumstances which provide a basis for Termination for Cause.

(e) Termination by Executive for Good Reason. Executive may terminate Executive's employment with the Company by resigning from employment with the Company for Good Reason. The term **"Good Reason"** shall mean the occurrence, without Executive's prior written consent, of any one or more of the following: (i) a material reduction in Executive's base salary; (ii) a material reduction in Executive's authority, duties or responsibilities; (iii) a relocation of Executive's principal place of employment with the Company (or its successor, if applicable) to a place that increases Executive's one-way commute by more than fifty (50) miles as compared to Executive's then-current principal place of employment immediately prior to such relocation, except for required travel by Executive on the Company's business to an extent substantially consistent with Executive's business travel obligations prior to such relocation; (iv) the assignment to Executive of any duties or responsibilities in conflict with Executive's professional medical obligations; or (v) any other action or inaction that constitutes a material breach by the Company (or its successor, if applicable) of any material provision of this Agreement.

No resignation for Good Reason shall be effective unless (1) Executive provides written notice, within ninety (90) days after the first occurrence of the event giving rise to Good Reason, to the Chairman of the Board setting forth in reasonable detail the material facts constituting Good Reason and the reasonable steps Executive believes necessary to cure, (2) the Company has had thirty (30) business days from the date of such notice to cure any such occurrence otherwise constituting Good Reason, and (3) if such event is not reasonably cured within such period, Executive must resign from all positions Executive then holds with the Company (including any position as a member of the Board) effective not later than ninety (90) days after the expiration of the cure period.

7. **Consequences of Termination of Employment.**

(a) General. If Executive's employment is terminated for any reason or no reason, the Company shall pay to Executive or to Executive's legal representatives, if applicable: (i) any base salary earned, but unpaid; and, (ii) any unreimbursed business expenses payable pursuant to Section 4 hereof and any accrued but unused personal time off benefits and any other payments or benefits required by applicable law (collectively **"Accrued Amounts"),** which amounts shall be promptly paid in a lump sum to Executive, or in the case of Executive's death to Executive's estate. Other than the Accrued Amounts, Executive or Executive's legal representatives shall not be entitled to any additional compensation or benefits if Executive's employment is terminated for any reason other than by reason of Executive's Involuntary Termination (as defined in Section 7(b) below). If Executive's employment terminates due to an Involuntary Termination, Executive will be eligible to receive the additional compensation and benefits described in Section 7(b) and 7(c), as applicable.

(b) Involuntary Termination. If (1) Executive's employment with the Company is terminated by the Company without Cause (and other than as a result of Executive's death or Disability) or (2) Executive terminates employment for Good Reason, and provided in any case such termination constitutes a "separation from service", as defined under Treasury Regulation Section 1.409A-1(h)) (a **"Separation from Service")** (such termination described in (1) or (2), an **"Involuntary Termination"),** in addition to the Accrued Amounts, Executive shall be entitled to receive the severance benefits described below in this Section 7(b), subject **in** all events to Executive's compliance with Section 7(d) below:

(i) Executive shall receive continued payment of Executive's Base Salary (as defined below) for the first twelve (12) months after the date of such termination (the **"Severance Period"),** paid over the Company's regular payroll schedule.

(ii) Executive shall receive a lump sum amount equal to Executive's target Annual Performance Bonus for the year of termination, pro-rated based on the ratio that the number of days from the beginning of the calendar year in which such termination occurs through the date of termination bears to 365 (the **"Bonus Payment").**

(iii) If Executive is eligible for and timely elects to continue the health insurance coverage under the Company's group health plans under the Consolidated Omnibus Budget Reconciliation Act of 1985 or the state equivalent **("COBRA")** following Executive's termination date, the Company will pay the COBRA group health insurance premiums for Executive and Executive's eligible dependents until the earliest of (A) the close of the Severance Period, (B) the expiration of Executive's eligibility for the continuation coverage under COBRA, or (C) the date when Executive becomes eligible for substantially equivalent health insurance coverage in connection with new employment or self-employment. For purposes of this Section, references to COBRA premiums shall not include any amounts payable by Executive under a Section 125 health care reimbursement plan under the Internal Revenue Code of 1986, as amended and the treasury regulations thereunder (the **"Code").** Notwithstanding the foregoing, if at any time the Company determines, in its sole discretion, that it cannot pay the COBRA premiums without potentially incurring financial costs or penalties under applicable law (including, without limitation, Section 2716 of the Public Health Service Act), then regardless of whether Executive elects continued health coverage under COBRA, and in lieu of providing the COBRA premiums, the Company will instead pay Executive on the last day of each remaining month of the Severance Period, a fully taxable cash payment equal to the COBRA premiums for that month, subject to applicable tax withholdings (such amount, the **"Health Care Benefit Payment").** The Health Care Benefit Payment shall be paid in monthly installments on the same schedule that the COBRA premiums would otherwise have been paid and shall be equal to the amount that the Company would have otherwise paid for COBRA premiums, and shall be paid until the earlier of (i) expiration of the Severance Period or (ii) the date Executive voluntarily enrolls in a group health insurance plan offered by another employer or entity.

(c) Involuntary Termination in Connection with a Change in Control. In the event that Executive's Involuntary Termination occurs immediately prior to, on or within the twelve (12) months following the consummation of a Change in Control (as defined in Section 7(e)) and subject in all events to Executive's compliance with Section 7(d) below, then Executive shall be entitled to the benefits provided above in Section 7(b) (which, for the avoidance of doubt, shall be incorporated into and become part of this Section 7(c)), except that:

(i) the Bonus Payment shall equal Executive's full target Annual Performance Bonus for the year of termination, rather than the pro-rated target bonus; and

(ii) the vesting of all of Executive's outstanding stock options and other equity awards that are subject to time-based vesting requirements shall accelerate in full such that all such equity awards shall be deemed fully vested as of the date of Executive's Involuntary Termination.

For the avoidance of doubt, in no event shall Executive be entitled to benefits under both Section 7(b) and this Section 7(c). If Executive is eligible for benefits under both Section 7(b) and this Section 7(c), Executive shall receive the benefits set forth in this Section 7(c) and such benefits will be reduced by any benefits previously provided to Executive under Section 7(b).

(d) Conditions and Timing for Severance Benefits. The severance benefits set forth in Section 7(b) and Section 7(c) above are expressly conditioned upon: (i) Executive continuing to comply with Executive's obligations under this Agreement, including Sections 8 through 11; and (ii) Executive signing and not revoking a general release of legal claims in a form similar to the form attached as **Exhibit B** hereto, with such changes as are necessary for updates in applicable laws and the circumstances of Executive's termination (the **"Release")** within the applicable deadline set forth therein and permitting the Release to become effective in accordance with its terms, which must occur no later than the Release Deadline (as defined in Section 14 below).

The salary continuation payments described in Section 7(b) will be paid in substantially equal installments on the Company's regular payroll schedule and subject to standard deductions and withholdings over the Severance Period following termination; *provided, however,* that no payments will be made prior to the effectiveness of the Release. On the effective date of the Release, the Company will pay Executive the salary continuation payments that Executive would have received on or prior to such date in a lump sum under the original schedule but for the delay while waiting for the effectiveness of the Release, with the balance of the payments being paid as originally scheduled. Bonus Payments described in Section 7(b) and 7(c) will be paid in a lump sum cash payment on the first regular payroll date of the Company following the effective date of the Release, but in no event later than March 15 of the year following the year in which Executive's termination of employment occurred. All severance benefits described in this Section 7 will be subject to all applicable standard required deductions and withholdings.

(e) Definitions.

(i) **"Base Salary"** means Executive's annual base salary in effect immediately prior to Executive's termination, excluding any reduction which forms the basis for Executive's right to resign for Good Reason.

(ii) **"Change in Control"** means a "Change in Control" as defined in the 2014 Omnibus Stock Ownership Plan, as amended.

8. Confidential Information. "Confidential Information" as used in this Agreement, includes non-public confidential information provided by or on behalf of the Company to Executive, including but not limited to specialized training, products already developed or that are under development by the Company; research and development materials, electronic databases; computer programs and technologies; marketing and/or scientific studies and analysis; product and pricing knowledge; manufacturing methods; supplier lists and information; any and all information concerning past, present and future customers, referral sources or vendors; contracts and licenses; management structure, company ownership, personnel information (including the performance, skills, abilities and payment of employees); purchasing, accounting and business systems; short and long range business planning; data regarding the Company's past, current and future financial performance, sales performance, and current and/or future plans to increase the Company's market share by targeting specific medical issues, demographic and/or geographic markets; standard operating procedures; financial information; trade secrets, copyrights, derivative works, patents, inventions, know-how, and other intellectual property; business policies; submissions to government or regulatory agencies and related information; methods of operation; implementation strategies; promotional information and techniques; marketing presentations; price lists; files or other information; pricing strategies; computer files; samples; customer originals; or any other confidential information concerning the business and affairs of the Company. The Company's Confidential Information is also comprised of the personal information received from third parties and/or confidential and proprietary information regarding research, products, or clinical trials received from third parties, but only if such confidential information is reduced to writing and marked "Confidential" by the third party. All such confidential information obtained by Executive, whether in writing, any other tangible form of expression or disclosed orally or through visual means or otherwise, and regardless of whether such information bears a confidential or proprietary legend, will be presumed to be Confidential Information. Executive acknowledges that the Confidential Information is vital, valuable, sensitive, confidential and proprietary to Company and provides Company with a competitive advantage. Executive further acknowledges that Company's Confidential Information is dynamic, and constantly changes in nature and/or quantity, given that Company continues to refine its Confidential Information. The obligations specified in this Section 8 shall not apply, and Executive shall have no further obligations under this Agreement with respect to any Confidential Information that: a) is available to the public at the time of disclosure to Executive or becomes publicly known through no breach of the undertakings hereunder by Executive; b) becomes known to Executive through disclosure by sources other than the Company and its Affiliates, said sources being under no obligation of confidentiality to the Company with respect to such Confidential Information; c) is approved by the Company for release; or d) has been independently developed by Executive without benefit of the Confidential Information and on Executive's own time and without use of Company resources. Executive understands and agrees that the Company may require him, as a condition to continued employment, to execute and abide by the terms of a standard proprietary information and inventions agreement with the Company which will further set forth the terms of, and prohibit the unauthorized use or disclosure of, the Company's confidential and proprietary information (the **"PHA")** and that such PHA shall become part of this Agreement and Executive's obligations under this Agreement.

9. Non-Competition; Non-Solicitation, Etc.

(a) Company Promises.

(i) This Agreement is entered into pursuant to Executive's agreement to these non-compete and non-solicitation provisions. Executive's agreement to the provisions in Sections 9 through 11 is a material condition of the Company's entering into this Agreement and continued employment of Executive.

(ii) The Company agrees to provide Executive with access to Confidential Information and in a greater quantity and/or expanded nature than any such Confidential Information that may have already been provided to Executive and with additional opportunities to broaden the Company's services and develop the Company's customers in a manner not previously available to Executive including, but not limited to, information regarding the Company's products and business plan; research results; information supporting patent applications; and Company standard operating procedures related to the Company's research and development efforts.

(iii) The Company promises that during Executive's employment with the Company, the Company will provide Executive with the opportunity to develop goodwill and establish rapport with the customer contacts in a greater quantity and/or expanded nature than any such opportunities that may have already been provided to Executive.

(iv) The Company promises that Executive will continue to receive and have access to Confidential Information throughout Executive's employment with the Company.

(b) Executive's Promises. In exchange for the Company's promises listed above and all other consideration provided pursuant to this Agreement, to which these promises are ancillary, Executive promises as follows:

(i) Executive will not, during or after Executive's employment with the Company, use, copy, remove, disclose or disseminate to any person or entity, the Company's Confidential Information, except (i) as required in the course of performing Executive's duties with the Company, for the benefit of the Company, or (ii) when required to do so by a court of law, by any governmental agency having supervisory authority over the business of the Company or by any administrative or legislative body (including a committee thereof) with apparent jurisdiction to order Executive to divulge, disclose or make accessible such information, it being understood that Executive will promptly notify the Company of such requirement so that the Company may seek to obtain a protective order.

(ii) Following employment termination, Executive will immediately return to the Company all materials created, received or utilized in any way in conjunction with Executive's work performed with the Company that in any way incorporates, reflects or constitutes Company's Confidential Information.

(iii) Executive acknowledges that the market for the Company's products, services, and activities is global, and that the products, services and/or activities can be provided anywhere in the world. Executive recognizes that the Company draws its customers and/or clients from around the world because it will seek to file patents and run clinical trials in countries around the world, and sell its product to consumers around the world and/or pharmaceutical companies located around the world. Moreover, Executive recognizes that the Company's customers may be contacted by telephone, in person, or in writing (including e-mail via the Internet). Executive further acknowledges that due to the international scope of the Company's customer and client base, the following non-solicitation/non-competition restriction is necessary.

(iv) Executive agrees and acknowledges that Executive shall not provide to the Company, either directly or indirectly, access to Confidential Information, as defined in Section 8, from or belonging to a third party that Executive was exposed to or received from said third party prior to the execution date of this Agreement and that is the subject of any confidentiality requirement of any kind between Executive and said third party. Company agrees that: (A) Executive shall be allowed to participate fully in the defense of any such action against Company and in any settlement negotiations, and (B) any payment to Company by Executive under this Section shall be only after any settlement has been consummated or judicial action has become final and non-appealable.

(c) Non-Compete. Ancillary to the consideration reflected within this Agreement, the Company and Executive agree to the following non-competition provisions. Executive agrees that during Executive's employment with the Company and for a period of twelve (12) months following the termination of her employment **("Non-Compete Period"):**

Executive shall not, directly or indirectly, engage in or participate (including, without limitation, as an investor, officer, employee, director, agent, or consultant (any such capacity, being a **"Participant"))** in or on behalf of any entity engaging in the **"Company's Business",** said Company's Business being defined as: non-gene modified multi-antigen specific T cell therapies for the treatment of hematologic malignancies and solid tumors (the **"Non-Compete Obligations"),** provided, however, that nothing herein shall prevent him from investing as a less than 5% shareholder in securities of any company listed on a national securities exchange or quoted on an automated quotation system.

(ii) Geographic Limitation. The geographic limitation for the Non-Compete Obligations is North America, Europe and Japan; and

(iii) Executive agrees that Executive's work for any third party engaged in the Company's Business during the Non-Compete Period inevitably would lead to Executive's unauthorized use of Company's Confidential Information, even if such use is unintentional. Because it would be impossible, as a practical matter, to monitor, restrain, or police Executive's use of such Confidential Information other than by Executive's not working for such third party, and because the Company's Business is highly specialized, the competitors are identifiable, the market for the Company's product, services, and activities is global, and the Company's customers are located throughout the world, Executive agrees that restricting such employment as set forth in this Agreement is the narrowest way to protect Company's legitimate business interests, and the narrowest way of enforcing Executive's consideration for the receipt of Company's consideration (namely, Executive's promise not to use or disclose Confidential Information).

(d) Nonsolicitation of Employees. Executive agrees that during the Non-Compete Period, Executive will not, directly or indirectly, (i) induce or solicit any person who was an employee, consultant or independent contractor of the Company or any of its Affiliates, to terminate such individual's employment or service with the Company or any of its Affiliates or (ii) assist any other person or entity in such activities.

(e) Extension of Non-Solicitation/Non-Competition and Non-Recruitment Periods. If Executive is found by a court of competent jurisdiction to have breached any promise made in Section 9 of this Agreement, the periods specified in Section 9(c) of this Agreement shall be extended by one month for every month in which Executive was in breach so that the Company has the full benefit of the time period provided in Section 9(c).

10. Injunction. Executive recognizes that Executive's services hereunder are of a special, unique, unusual, extraordinary and intellectual character giving them a peculiar value, the loss of which cannot be reasonably or adequately compensated for in damages. Executive acknowledges that if Executive were to leave the employ of the Company for any reason and compete, directly or indirectly, with the Company, or solicit the Company's employees, or use or disclose, directly or indirectly, the Company's Confidential Information (whether in tangible form or memorized), that such competition, solicitation, use and/or disclosure would cause the Company irreparable harm and injury for which no adequate remedy at law exists. Executive agrees this Agreement is the narrowest way to protect the Company's interests. Therefore, in the event of the breach or threatened breach of any of Sections 9 through 11 of this Agreement by Executive, the Company shall be entitled to obtain injunctive relief to enjoin such breach or threatened breach, in addition to all other remedies and alternatives that may be available at law or in equity. Executive acknowledges that the remedies contained in this Agreement for violation of this Agreement are not the exclusive remedies that the Company may pursue.

11. Inventions.

(a) Inventions Retained and Licensed. Executive has attached hereto as **Exhibit A,** a list describing all inventions, original works of authorship, derivative works, developments, improvements and trade secrets that (i) were made by Executive prior to her employment with the Company, (ii) belong to Executive, (iii) relate to the Company's proposed business, products or research and development and (iv) are not assigned to the Company hereunder (collectively, **"Prior Inventions");** or, if no such list is attached, Executive represents that there are no such Prior Inventions. Executive agrees that Executive will not incorporate, or permit to be incorporated, any Prior Invention owned by Executive or in which Executive has an interest into a Company product, process or service without the Company's prior written consent. Nevertheless, if, in the course of Executive's employment with the Company, Executive incorporates into a Company product, process or service a Prior Invention owned by Executive or in which Executive has an interest, Executive hereby grants to the Company a nonexclusive, royalty-free, fully paid-up, irrevocable, perpetual, transferable, sublicensable, worldwide license to reproduce, make derivative works of, distribute, perform, display, import, make, have made, modify, use, sell, offer to sell, and exploit in any other way such Prior Invention as part of or in connection with such product, process or service, and to practice any method related thereto.

(b) Assignment of Inventions. Executive agrees that Executive will promptly make full written disclosure to the Company, will hold in trust for the sole right and benefit of the Company, and hereby assign to the Company, or its designee, all Executive's right, title, and interest in and to any and all inventions, original works of authorship, derivative works, developments, concepts, modifications, improvements (including improvements to Confidential Information), designs, discoveries, ideas, know-how, trademarks, trade dress, trade secrets or other intellectual property, whether or not patentable or registrable under copyright or similar laws, which Executive may solely or jointly conceive or develop or reduce to practice, or cause to be conceived or developed or reduced to practice, whether or not reduced to drawings, written descriptions, documentation or other tangible form, as applicable, during the period of time Executive is employed by the Company (collectively, **"Inventions"),** except as provided in Section 11(f) below. Executive further acknowledges that all original works of authorship which are made by Executive (solely or jointly with others) within the scope of and during the period of Executive's employment with the Company and which are protectible by copyright are "works made for hire" as that term is defined in the United States Copyright Act. Executive understands and agrees that the decision whether or not to commercialize or market any Invention is within the Company's sole discretion and for the Company's sole benefit and that no royalty will be due to Executive as a result of the Company's efforts to commercialize or market any such Invention.

(c) Inventions Assigned to the United States. Executive agrees to assign to the United States government all Executive's right, title, and interest in and to any and all Inventions whenever such full title is required to be in the United States by a contract between the Company and the United States or any of its agencies.

(d) Maintenance of Records. Executive agrees to keep and maintain adequate and current written records of all Inventions during the term of Executive's employment with the Company. The records will be in the form of notes, sketches, drawings and any other format that may be specified by the Board. The records will be available to and remain the Company's sole property at all times.

(e) Patent and Copyright Registrations. Executive agrees to assist the Company, or its designee, at the Company's expense, in every proper way to secure the Company's rights in any Inventions and any copyrights, patents, mask work rights or other intellectual property rights relating thereto in any and all countries, including, but not limited to, the disclosure to the Company of all pertinent information and data with respect thereto, the execution of all applications, specifications, oaths, declarations, assignments and all other instruments that the Company deems necessary in order to apply for and obtain such rights and in order to assign and convey to the Company, its successors, assigns, and nominees the sole and exclusive rights, title and interest in and to such Inventions, and any copyrights, patents, mask work rights or other intellectual property rights relating thereto. Executive further agrees that Executive's obligations to execute or cause to be executed, when it is in Executive's power to do so, any such instrument or papers shall continue after the termination of this Agreement. If the Company is unable because of Executive's mental or physical incapacity or for any other reason to secure Executive's signature to apply for or to pursue any application for any United States or foreign patents or copyright registrations covering any Inventions or original works of authorship assigned to the Company as above, then Executive hereby irrevocably designates and appoints the Company and its duly authorized officers and agents as Executive's agent and attorney in fact, to act for and in Executive's behalf and stead to execute and file any such applications and to do all other lawfully permitted acts to further the prosecution and issuance of letters patent or copyright registrations thereon with the same legal force and effect as if executed by Executive.

(f) Exception to Assignments. Executive understands that the provisions of this Agreement requiring assignment of Inventions to the Company does not apply to any Invention that Executive has developed entirely on Executive's own time without using the Company's equipment, supplies, facilities, trade secret information or Confidential Information (an **"Other Invention"),** except for those Other Inventions that either (i) relate in any way at the time of conception or reduction to practice of such Other Invention to the Company's Business or (ii) result from any work that Executive performed for the Company. Executive will advise the Company promptly in writing, under a confidentiality agreement, of any Invention that Executive believes constitutes an Other Invention and is not otherwise disclosed on **Exhibit A.** Executive agrees that Executive will not incorporate, or permit to be incorporated, any Other Invention owned by Executive or in which Executive has an interest into a Company product, process or service without the Company's prior written consent. Notwithstanding the foregoing sentence, if, in the course of Executive's employment with the Company, Executive incorporates into a Company product, process or service an Other Invention owned by Executive or in which Executive has an interest, Executive hereby grants to the Company a nonexclusive, royalty-free, fully paid-up, irrevocable, perpetual, transferable, sublicensable, worldwide license to reproduce, make derivative works of, distribute, perform, display, import, make, have made, modify, use, sell, offer to sell, and exploit in any other way such Other Invention as part of or in connection with such product, process or service, and to practice any method related thereto.

12. Disputes. Any dispute or controversy between the Company and Executive, arising out of or relating to this Agreement, the breach of this Agreement, the Company's employment of Executive, or otherwise, shall be settled by binding arbitration conducted by and before a single arbitrator in Houston, Texas administered by the American Arbitration Association in accordance with its Employment Arbitration Rules (the "AAA Rules") then in effect and judgment on the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. Both Employee and the Company hereby waive the right to a trial by jury or judge, or by administrative proceeding, for any covered claim or dispute. To the extent the AAA Rules conflict with any provision or aspect of this Agreement, this Agreement shall control. The arbitrator shall have the authority to award any remedy or relief that a court of competent jurisdiction could order or grant, including, without limitation, the issuance of an injunction. However, either party may, without inconsistency with this arbitration provision, apply to any court having jurisdiction over such dispute or controversy and seek interim provisional, injunctive or other equitable relief until the arbitration award is rendered or the controversy is otherwise resolved. Except as necessary in court proceedings to enforce this arbitration provision or an award rendered hereunder, or to obtain interim relief, neither a party nor an arbitrator may disclose the existence, content or results of any arbitration hereunder without the prior written consent of the Company and Executive. All claims, disputes, or causes of action under this Agreement, whether by Employee or the Company, must be brought in an individual capacity, and shall not be brought as a plaintiff (or claimant) or class member in any purported class or representative proceeding, nor joined or consolidated with the claims of any other person or entity. The arbitrator may not consolidate the claims of more than one person or entity, and may not preside over any form of representative or class proceeding. This Agreement is made under the provisions of the Federal Arbitration Act (9 U.S.C., Sections 1-14) ("FAA") and will be construed and governed accordingly. It is the parties' intention that both the procedural and the substantive provisions of the FAA shall apply. **Questions of arbitrability (that is whether an issue is subject to arbitration under this agreement) shall be decided by the arbitrator.** Likewise, procedural questions which grow out of the dispute and bear on the final disposition are also matters for the arbitrator. However, where a party already has initiated a judicial proceeding, a court may decide procedural questions that grow out of the dispute and bear on the final disposition of the matter. Each party shall bear its or her costs and expenses in any arbitration hereunder and one-half of the arbitrator's fees and costs; provided, however, that the arbitrator shall have the discretion to award the prevailing party reimbursement of its or her reasonable attorney's fees and costs, unless such award is prohibited by applicable law. Notwithstanding the foregoing, Executive and the Company shall each have the right to resolve any dispute or cause of action involving trade secrets, proprietary information, or intellectual property (including, without limitation, inventions assignment rights, and rights under patent, trademark, or copyright law) by court action instead of arbitration.

13. Notices. All notices given under this Agreement shall be in writing and shall be deemed to have been duly given (a) when delivered personally, (b) three business days after being mailed by first class certified mail, return receipt requested, postage prepaid, (c) one business day after being sent by a reputable overnight delivery service, postage or delivery charges prepaid, or (d) on the date on which a facsimile is transmitted to the parties at their respective addresses stated below. Any party may change its address for notice and the address to which copies must be sent by giving notice of the new addresses to the other party in accordance with this Section 13, except that any such change of address notice shall not be effective unless and until received.

If to the Company:

3200 Southwest Freeway #2240
Houston, Texas 77027
Attention: Chairman of the Board of Directors

with a copy (which shall not constitute notice) to:

Mark Catchur

Shumaker Loop & Kendrick, LLP
Bank of America Plaza, Suite 2800
101 East Kennedy Boulevard
Tampa, Florida 33602

If to Executive, to Executive's address on file with the Company.

14. Tax Provisions.

(a) Section 409A. Notwithstanding anything in this Agreement to the contrary, the following provisions apply to the extent severance benefits provided herein are subject to the provisions of Section 409A of the Code and the regulations and other guidance thereunder and any state law of similar effect (collectively **"Section 409A").** Severance benefits shall not commence until Executive's Separation from Service. Each installment of severance benefits is a separate "payment" for purposes of Treasury Regulations Section 1.409A-2(b)(2)(i), and the severance benefits are intended to satisfy the exemptions from application of Section 409A provided under Treasury Regulations Sections 1.409A-1(b)(4), 1.409A-1(b)(5) and 1.409A-1(b)(9). However, if such exemptions are not available and Executive is, upon Separation from Service, a "specified employee" for purposes of Section 409A, then, solely to the extent necessary to avoid adverse personal tax consequences under Section 409A, the timing of the severance benefits payments shall be delayed until the earlier of (i) six (6) months and one day after Executive's Separation from Service, or (ii) Executive's death. Executive shall receive severance benefits only if Executive executes and returns to the Company the Release within the applicable time period set forth therein and permits such Release to become effective in accordance with its terms, which date may not be later than sixty (60) days following the date of Executive's Separation from Service (such latest permitted date, the **"Release Deadline").** If the severance benefits are not covered by one or more exemptions from the application of Section 409A and the Release could become effective in the calendar year following the calendar year in which Executive's Separation from Service occurs, the Release will not be deemed effective any earlier than the Release Deadline. None of the severance benefits will be paid or otherwise delivered prior to the effective date of the Release. Except to the minimum extent that payments must be delayed because Executive is a "specified employee" or until the effectiveness of the Release, all amounts will be paid as soon as practicable in accordance with the schedule provided herein and in accordance with the Company's normal payroll practices. The severance benefits are intended to qualify for an exemption from application of Section 409A or comply with its requirements to the extent necessary to avoid adverse personal tax consequences under Section 409A, and any ambiguities herein shall be interpreted accordingly.

(b) Section 280G. If any payment or benefit Executive will or may receive from the Company or otherwise (a **"280G Payment")** would (i) constitute a "parachute payment" within the meaning of Section 280G of the Code, and (ii) but for this sentence, be subject to the excise tax imposed by Section 4999 of the Code (the **"Excise Tax"),** then any such 280G Payment pursuant to this Agreement or otherwise (a **"Payment")** shall be equal to the Reduced Amount. The **"Reduced Amount"** shall be either (x) the largest portion of the Payment that would result in no portion of the Payment (after reduction) being subject to the Excise Tax or (y) the largest portion, up to and including the total, of the Payment, whichever amount (i.e., the amount determined by clause (x) or by clause (y)), after taking into account all applicable federal, state and local employment taxes, income taxes, and the Excise Tax (all computed at the highest applicable marginal rate), results in Executive's receipt, on an after-tax basis, of the greater economic benefit notwithstanding that all or some portion of the Payment may be subject to the Excise Tax. If a reduction in a Payment is required pursuant to the preceding sentence and the Reduced Amount is determined pursuant to clause (x) of the preceding sentence, the reduction shall occur in the manner (the **"Reduction Method")** that results in the greatest economic benefit for Executive. If more than one method of reduction will result in the same economic benefit, the items so reduced will be reduced pro rata (the **"Pro Rata Reduction Method").**

Notwithstanding the foregoing, if the Reduction Method or the Pro Rata Reduction Method would result in any portion of the Payment being subject to taxes pursuant to Section 409A that would not otherwise be subject to taxes pursuant to Section 409A, then the Reduction Method and/or the Pro Rata Reduction Method, as the case may be, shall be modified so as to avoid the imposition of taxes pursuant to Section 409A as follows: (A) as a first priority, the modification shall preserve to the greatest extent possible, the greatest economic benefit for Executive as determined on an after-tax basis; (B) as a second priority, Payments that are contingent on future events (e.g., being terminated without cause), shall be reduced (or eliminated) before Payments that are not contingent on future events; and (C) as a third priority, Payments that are "deferred compensation" within the meaning of Section 409A shall be reduced (or eliminated) before Payments that are not deferred compensation **within the meaning of** Section 409A.

Unless Executive and the Company agree on an alternative accounting firm, the accounting firm engaged by the Company for general tax compliance purposes as of the day prior to the effective date of the change of control transaction triggering the Payment shall perform the foregoing calculations. If the accounting firm so engaged by the Company is serving as accountant or auditor for the individual, entity or group effecting the change in control transaction, the Company shall appoint a nationally recognized accounting firm to make the determinations required hereunder. The Company shall bear all expenses with respect to the determinations by such accounting firm required to be made hereunder. The Company shall use commercially reasonable efforts to cause the accounting firm engaged to make the determinations hereunder to provide its calculations, together with detailed supporting documentation, to Executive and the Company within fifteen (15) calendar days after the date on which Executive's right to a 280G Payment becomes reasonably likely to occur (if requested at that time by Executive or the Company) or such other time as requested by Executive or the Company.

If Executive receives a Payment for which the Reduced Amount was determined pursuant to clause (x) of the first paragraph of this Section 14(b) and the Internal Revenue Service determines thereafter that some portion of the Payment is subject to the Excise Tax, Executive shall promptly return to the Company a sufficient amount of the Payment (after reduction pursuant to clause (x) of the first paragraph of this Section 14(b) so that no portion of the remaining Payment is subject to the Excise Tax. For the avoidance of doubt, if the Reduced Amount was determined pursuant to clause (y) in the first paragraph of this Section 14(b), Executive shall have no obligation to return any portion of the Payment pursuant to the preceding sentence.

15. Miscellaneous.

(a) Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas without reference to principles of conflict of laws.

(b) Entire Agreement/Amendments. This Agreement and the instruments contemplated herein contain the entire understanding of the parties with respect to the employment of Executive by the Company from and after the Effective Date and supersede any prior agreements or promises between the Company and Executive, except for any outstanding stock option or other equity award agreement previously entered into between Executive and the Company. There are no restrictions, agreements, promises, warranties, covenants or undertakings between the parties with respect to the subject matter herein other than those expressly set forth herein and therein. This Agreement may not be altered, modified, or amended except by written instrument signed by the parties hereto.

(c) No Waiver. The failure of a party to insist upon strict adherence to any term of this Agreement on any occasion shall not be considered a waiver of such party's rights or deprive such party of the right thereafter to insist upon strict adherence to that term or any other term of this Agreement. Any such waiver must be in writing and signed by Executive or an authorized officer of the Company, as the case may be.

(d) Assignment. This Agreement shall not be assignable by Executive.

(e) Representation. Executive represents that Executive's employment by the Company and the performance by Executive of her obligations under this Agreement do not, and shall not, breach any agreement, including, but not limited to, any agreement that obligates him to keep in confidence any trade secrets or confidential or proprietary information of her or of any other party, to perform services for any other party or to refrain from competing, directly or indirectly, with the business of any other party. Executive shall not disclose to the Company or use any trade secrets or confidential or proprietary information of any other party.

(f) Successors; Binding Agreement; Third Party Beneficiaries. This Agreement shall inure to the benefit of and be binding upon the personal or legal representatives, executors, administrators, successors, heirs, distributees, devisees, legatees and permitted assignees of the parties hereto.

(g) Withholding Taxes. The Company shall withhold from any and all compensation, severance and other amounts payable under this Agreement such Federal, state, local or other taxes as may be required to be withheld pursuant to any applicable law or regulation.

(h) Survivorship. The respective rights and obligations of the parties hereunder, including without limitation Sections 8 through 11 hereof, shall survive any termination of Executive's employment to the extent necessary to the agreed preservation of such rights and obligations.

(i) Counterparts. This Agreement may be signed in counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

(j) Headings. The headings of the sections contained in this Agreement are for convenience only and shall not be deemed to control or affect the meaning or construction of any provision of this Agreement.

Signature Page Follows

IN WITNESS WHEREOF, the parties hereto have duly executed this Agreement as of the day and year first above written.

By: Marker Therapeutics, Inc.

By: /s/ Peter Hoang
Name: Peter Hoang
Title: President and Chief Executive Officer

/s/ Mythili Koneru
Name: Mythili Koneru, M.D. Ph.D.

EXHIBIT A

INVENTIONS

None.

Exhibit 31.1

CERTIFICATION

I, Peter L. Hoang, certify that:

(1) I have reviewed this Report on Form 10-Q for the quarterly period ended March 31, 2019 of Marker Therapeutics, Inc.;

(2) Based on my knowledge, this Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Report;

(3) Based on my knowledge, the financial statements, and other financial information included in this Report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this Report;

(4) The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurances regarding the reliability of financial reporting in the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this Report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

(5) The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of the internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 10, 2019

/s/ Peter L. Hoang

By: **Peter L. Hoang**
Title: Chief Executive Officer

Exhibit 31.2

CERTIFICATION

I, Anthony Kim, certify that:

(1) I have reviewed this Report on Form 10-Q for the quarterly period ended March 31, 2019 of Marker Therapeutics, Inc.;

(2) Based on my knowledge, this Report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this Report;

(3) Based on my knowledge, the financial statements, and other financial information included in this Report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this Report;

(4) The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

(a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

(b) Designed such internal control over financial reporting or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurances regarding the reliability of financial reporting in the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

(c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

(d) Disclosed in this Report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

(5) The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of the internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

(a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

(b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: May 10, 2019

/s/ Anthony Kim

By: **Anthony Kim**
Title: Chief Financial Officer and Chief Accounting Officer

Exhibit 32.1

CERTIFICATION OF PRINCIPAL EXECUTIVE OFFICER

PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

The undersigned, Peter L. Hoang, the Chief Executive Officer of Marker Therapeutics, Inc. (the "Company") hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Report on Form 10-Q of Marker Therapeutics, Inc., for the quarterly period ended March 31, 2019, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and that the information contained in the Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of Marker Therapeutics, Inc.

Date: May 10, 2019

/s/ Peter L. Hoang
Peter L. Hoang
Chief Executive Officer

Exhibit 32.2

CERTIFICATION OF PRINCIPAL ACCOUNTING OFFICER

PURSUANT TO
18 U.S.C. SECTION 1350,
AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002

The undersigned, Anthony Kim, the Chief Financial Officer and Chief Accounting Officer of Marker Therapeutics, Inc. (the "Company") hereby certifies, pursuant to 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that the Report on Form 10-Q of Marker Therapeutics, Inc., for the quarterly period ended March 31, 2019, fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and that the information contained in the Report on Form 10-Q fairly presents in all material respects the financial condition and results of operations of Marker Therapeutics, Inc.

Date: May 10, 2019

/s/ Anthony Kim
Anthony Kim
Chief Financial Officer and Chief Accounting Officer