

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

Post-Effective Amendment No. 2
to
FORM S-1
ON FORM S-3
REGISTRATION STATEMENT
UNDER THE SECURITIES ACT OF 1933

NEUROMETRIX, INC.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

3841

(Primary Standard Industrial
Classification Code Number)

04-3308180

(I.R.S. Employer
Identification No.)

**62 Fourth Avenue
Waltham, Massachusetts 02451
(781) 890-9989**

(Address, including zip code, and telephone number,
including area code, of registrant's principal executive offices)

**Shai N. Gozani, M.D., Ph.D.
Chief Executive Officer
NeuroMetrix, Inc.
62 Fourth Avenue
Waltham, Massachusetts 02451
(781) 890-9989**

(Name, address, including zip code, and telephone number,
including area code, of agent for service)

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Approximate date of commencement of proposed sale to the public: From time to time after this registration statement becomes effective, as determined by the registrant.

If the only securities being registered on this Form are to be offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, please check the following box.

If this Form is used to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

EXPLANATORY NOTE

On November 23, 2011, NeuroMetrix, Inc. (the “**Company**”) filed a registration statement with the Securities and Exchange Commission (the “**Commission**”) on Form S-1 (Registration No. 333-178165) (as amended, the “**Registration Statement**” or the “**Form S-1**”). The Registration Statement was declared effective by the Commission on February 7, 2012, and registered the public offering (the “**Offering**”) of 10,500,000 units (the “**Units**”), each Unit consisting of one share of our Common Stock, par value \$0.0001 per share (the “**Common Stock**”) and one warrant, each warrant entitling the holder to purchase one half of one share of Common Stock (each, a “**Unit Warrant**”).

We previously sold 8,530,410 Units in the Offering. Dawson James Securities, Inc. was the placement agent for the Offering. We issued a warrant to purchase 426,520 shares of Common Stock to Dawson James Securities, Inc. as partial consideration for serving as placement agent (the “**Placement Agent Warrant**”).

This Post-Effective Amendment No. 2 to Form S-1 on Form S-3 (the “**Post Effective Amendment**”) is being filed by the registrant to update the Registration Statement to include information from our annual report on Form 10-K for the year ended December 31, 2011, filed on February 24, 2012, and also to convert the Registration Statement on Form S-1 into a Form S-3, and contains an updated prospectus relating to the offering and sale of the Units that were registered on the Form S-1. As of the date of filing of this Post Effective Amendment, no further offering will be made of the Units by the Company. Accordingly, this Post Effective Amendment registers only the shares of Common Stock issuable upon exercise of the Unit Warrants underlying the Units and the Placement Agent Warrants.

All filing fees payable in connection with the registration of the shares of the Common Stock were paid by the registrant at the time of the filing of the Form S-1.

The information in this preliminary prospectus is not complete and may be changed. We may not issue these securities until the Post-Effective Amendment No. 2 to the Registration Statement filed with the Securities and Exchange Commission is declared effective. This preliminary prospectus is not an offer to sell these securities and it is not soliciting an offer to buy these securities in any state where the offer or sale is not permitted.

Subject to Completion, Dated April 24, 2012

NEUROMetrix®

Issuance of up to 4,691,725 Shares of Common Stock upon Exercise of Warrants

We previously sold 8,530,410 units (the “Units”), with each Unit consisting of (i) one share of the Company’s common stock (“Common Stock”), par value \$0.0001 per share (collectively, the “Shares”), and (ii) one warrant to purchase one half of one share of Common Stock (collectively, the “Unit Warrants”). The Unit Warrants are exercisable at an exercise price of \$1.15 per share during the period commencing on August 13, 2012 and ending February 13, 2017. We do not intend to sell any more Units.

Dawson James Securities, Inc. was the placement agent for the offering of Units. We also issued a warrant to purchase 426,520 shares of Common Stock to Dawson James Securities, Inc. as partial consideration for serving as placement agent (the “Placement Agent Warrant” and collectively with the Unit Warrants, the “Warrants”). The Placement Agent Warrant is exercisable at an exercise price of \$1.25 per share during the period commencing on February 13, 2013 and ending February 7, 2017.

This prospectus relates to the issuance of up to 4,691,725 shares of Common Stock issuable upon the exercise of the Warrants.

Our common stock is listed on the NASDAQ Capital Market under the symbol “NURO.” The last reported sale price of our common stock on the NASDAQ Capital Market on April 20, 2012 was \$0.73 per share.

Investing in our common stock involves risks. See “Risk Factors” on page 3.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is , 2012.

TABLE OF CONTENTS

PROSPECTUS SUMMARY	1
THE OFFERING	2
RISK FACTORS	3
FORWARD-LOOKING STATEMENTS	3
USE OF PROCEEDS	4
DESCRIPTION OF SECURITIES	4
PLAN OF DISTRIBUTION	7
LEGAL MATTERS	8
EXPERTS	8
WHERE YOU CAN FIND MORE INFORMATION	8
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE	8

You should rely only on the information contained or incorporated by reference in this prospectus and any free-writing prospectus prepared by or on behalf of us or to which we have referred you. We have not authorized anyone to provide you with additional or different information. We are offering to sell, and are seeking offers to buy these securities only in jurisdictions where offers and sales are permitted. The information contained in this prospectus is accurate only as of the date of this prospectus, regardless of the time of delivery of this prospectus or of any sale of our securities.

Registered Trademarks and Trademark Applications: In the United States we have registered trademarks for “NEUROMETRIX”, “NC-STAT” and “onCall”, each registered with the United States Patent and Trademark Office. In addition, the marks “ADVANCE” and “NC-stat DPNCHECK” are the subject of either a trademark registration or application for registration in the United States. We also hold certain foreign trademark registrations for the marks NEUROMETRIX and NC-STAT. Solely for convenience, the trademarks, service marks and trade names referred to in this prospectus are without the ® and ™ symbols, but such references are not intended to indicate, in any way, that the owner thereof will not assert, to the fullest extent under applicable law, such owner’s rights to these trademarks, service marks and trade names. This prospectus contains additional trade names, trademarks and service marks of other companies, which, to our knowledge, are the property of their respective owners.

We obtained industry and market data used throughout and incorporated by reference into this prospectus through our research, surveys and studies conducted by third parties and industry and general publications. We have not independently verified market and industry data from third-party sources.

On September 1, 2011 we completed a 1-for-6 reverse split of our common stock. Throughout this prospectus we have restated historical per share data, as well as data related to common stock, options and warrants to reflect the effects of this reverse split.

PROSPECTUS SUMMARY

This summary highlights selected information contained in greater detail elsewhere in this prospectus or incorporated by reference into this prospectus. This summary may not contain all of the information that you should consider before investing in the common stock issuable upon the exercise of your Warrants. You should carefully read the entire prospectus, especially the discussion of "Risk Factors" on page 3 and the financial statements and related notes and other documents incorporated by reference into this prospectus, before making an investment decision. As used in this prospectus, references to "we," "our," "us" and "NeuroMetrix" refer to NeuroMetrix, Inc. unless the context requires otherwise.

Our Business

We are a medical device company focused on the diagnosis and treatment of the neurological complications of diabetes. As a medical device company with both unique and substantial experience in devices to measure and alter peripheral nerve function, we believe we are in the unique position to address the nerve-related complications of diabetes through the development of novel proprietary medical devices. Therefore, we are focused on developing and marketing medical devices for the diagnosis and treatment of diabetic neuropathies.

Our initial product for diabetic neuropathy, NC-stat DPNCheck, was launched in September 2011. NC-stat DPNCheck is a fast, accurate, and quantitative nerve conduction test that is used to evaluate systemic neuropathies such as DPN. It is designed to be used by primary care physicians, endocrinologists, podiatrists and other clinicians at the point-of-care to objectively detect, stage, and monitor DPN. The device measures nerve conduction velocity and response amplitude of the sural nerve, a nerve in the lower leg and ankle. These parameters are widely recognized as sensitive and specific biomarkers of DPN. We initiated sales into the endocrinologist and podiatrist market through a direct, specialty sales force that we hired, trained and deployed during the third quarter of 2011. Through March 31, 2012, we have placed a total of over 250 devices with customers, including endocrinologists and podiatrists, as well as primary care physicians and others.

Our Corporate Information

Our President and Chief Executive Officer, Shai N. Gozani, M.D., Ph.D. founded NeuroMetrix in June 1996. We originally were incorporated in Massachusetts in 1996, and we reincorporated in Delaware in 2001. Our principal offices are located at 62 Fourth Avenue, Waltham, Massachusetts 02451 and our telephone number is (781) 890-9989. Our web site is www.neurometrix.com. We have not incorporated by reference into this prospectus the information on our website, and you should not consider it to be a part of this document. Our web site address is included in this document as an inactive textual reference only. The NeuroMetrix name and logo and the names of products and services offered by NeuroMetrix are trademarks, registered trademarks, service marks or registered service marks of NeuroMetrix.

THE OFFERING

Securities offered	4,691,725 shares of Common Stock, which includes 4,265,205 shares of Common Stock issuable upon exercise of the Unit Warrants underlying the Units sold on February 13, 2012 and 426,520 shares of Common Stock issuable upon exercise of the Placement Agent Warrant issued to Dawson James Securities, Inc. as partial consideration for serving as placement agent for the offering of the Units.
Exercise price	The Unit Warrants have an exercise price of \$1.15 per share. The Placement Agent Warrant has an exercise price of \$1.25 per share.
Term of Warrants	The Unit Warrants are exercisable during the period commencing on August 13, 2012 and ending February 13, 2017. The Placement Agent Warrant is exercisable during the period commencing on February 13, 2013 and ending February 7, 2017.
Use of proceeds	We will only receive proceeds from this offering if the holders of the Warrants exercise them for cash before the Warrants expire. To the extent we receive any such proceeds, we intend to use them for general corporate purposes, including continuing our commercialization efforts for NC-stat DPNCheck and development of our product candidates. See "Use of Proceeds" for additional information.
Risk factors	You should read the "Risk Factors" section of, and all of the other information set forth in, this prospectus and the documents incorporated herein by reference for a discussion of factors to consider carefully before deciding whether to invest in the securities offered by this prospectus.
NASDAQ Capital Market symbol	NURO

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider and evaluate all of the information contained in this prospectus and in the documents we incorporate by reference in this prospectus before you decide to purchase our securities. In particular, you should carefully consider and evaluate the risks and uncertainties described below and in “Part I — Item 1A. Risk Factors” of our Form 10-K for the year ended December 31, 2011, “Part II — Item 1A. Risk Factors” of our Form 10-Q for the quarter ended March 31, 2012 and in subsequent filings that we make with the U.S. Securities and Exchange Commission. Any of the risks and uncertainties set forth herein or therein could materially and adversely affect our business, results of operations and financial condition, which in turn could materially and adversely affect the trading price or value of our securities. As a result, you could lose all or part of your investment.

There must be a current prospectus and state registration or exemption in order for you to exercise the warrants.

The warrants may only be exercised if a current prospectus relating to the common stock underlying the warrants is then in effect and only if such securities are qualified for sale or exempt from qualification under the applicable securities laws of the states in which the various holders of warrants reside. Although we will attempt to maintain the effectiveness of a current prospectus covering the common stock underlying the warrants and maintain the registration or exemption of such common stock under the securities laws of the states in which we initially sell the common stock and warrants in the offering, there can be no assurance that we will be able to do so. We will be unable to issue common stock to those persons desiring to exercise their warrants if a current prospectus covering the common stock issuable upon the exercise of the warrants is not kept effective or if such shares are neither qualified nor exempt from qualification in the states in which the holders of the warrants reside. If the registration statement covering the shares issuable upon exercise of the warrants is no longer effective, the warrants may only be exercised on a “cashless” basis and will be issued with restrictive legends unless such shares are eligible for sale under Rule 144 of the Securities Act of 1933, as amended.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents we incorporate by reference in this prospectus contain forward-looking statements. Forward-looking statements relate to future events or our future financial performance. We generally identify forward-looking statements by terminology such as “may,” “will,” “should,” “expects,” “plans,” “anticipates,” “could,” “intends,” “target,” “projects,” “contemplates,” “believes,” “estimates,” “predicts,” “potential” or “continue” or the negative of these terms or other similar words, although not all forward-looking statements contain these words. Forward-looking statements include, but are not limited to, statements such as our estimates regarding anticipated operating losses, future revenues and projected expenses; our liquidity and our expectations regarding our needs for and ability to raise additional capital; our ability to manage our expenses effectively and raise the funds needed to continue our business; our belief that there are unmet needs in the diagnosis and treatment of diabetic neuropathy and our expectations surrounding NC-stat DPNCheck; our plans to develop and commercialize our products; the success and timing of our studies; our ability to obtain and maintain regulatory approval of our existing products and any future products we may develop; regulatory and legislative developments in the United States and foreign countries; the performance of our third-party manufacturers; our ability to obtain and maintain intellectual property protection for our products; the successful development of our sales and marketing capabilities; the size and growth of the potential markets for our products and our ability to serve those markets; the rate and degree of market acceptance of any future products; the loss of key scientific management or personnel; the reimbursement methods used by private or governmental third-party payers; and other factors discussed elsewhere in this prospectus. These statements are only predictions. Although we believe that we have a reasonable basis for each forward-looking statement contained in this prospectus, we caution you that these statements are based on our projections of the future that are subject to risks and uncertainties. The outcome of the events described in these forward-looking statements is subject to known and unknown risks, uncertainties and other factors that may cause our, our customers’ or our industry’s actual results, levels of activity, performance or achievements expressed or implied by these forward-looking statements, to differ. “Risk Factors” and “Business,” as well as other sections in this prospectus or incorporated by reference into this prospectus, discuss some of the factors that could contribute to these differences.

The forward-looking statements made in this prospectus relate only to events as of the date on which the statements are made. We undertake no obligation to update any forward-looking statement to reflect events or circumstances after the date on which the statement is made or to reflect the occurrence of unanticipated events.

USE OF PROCEEDS

None of the Warrants have been exercised and none may be exercised until, at the earliest, August 13, 2012. In the event of full exercise of all of the Unit Warrants, we will receive approximately \$4,904,986 in net proceeds based on the exercise price of \$1.15 per share. In the event of full exercise of the Placement Agent Warrant, we will receive approximately \$533,150 in net proceeds based on an exercise price of \$1.25 per share. The actual exercise of any of the Warrants, however, is beyond our control and depends on a number of factors, including the market price of our common stock and whether such Warrants are exercised on a cashless basis.

The registration statement of which this prospectus forms a part has been filed to register shares of common stock issuable upon conversion of the outstanding Warrants issued in connection with the offer and sale of the Units. We intend to use the net proceeds of this offering, if any, for general corporate purposes, including continuing our commercialization efforts for our NC-stat DPNCheck product launched in September 2011 and developing SENSUS and other product candidates. We have not yet determined with certainty the manner in which we will allocate these net proceeds. Accordingly, our management will have broad discretion in the application of any net proceeds, and investors will be relying on the judgment of our management regarding the application of the proceeds of this offering.

Pending specific utilization of the net proceeds described above, we intend to invest the net proceeds in United States government securities and other short term, investment grade, interest bearing securities.

DESCRIPTION OF SECURITIES

The following description of our securities is intended as a summary only and is qualified in its entirety by reference to our amended and restated certificate of incorporation and amended and restated bylaws, which are filed as exhibits to the registration statement of which the prospectus forms a part, and to the applicable provisions of the Delaware General Corporation Law. We refer in this section to our amended and restated certificate of incorporation as our certificate of incorporation, and we refer to our amended and restated bylaws as our bylaws.

Our authorized capital stock consists of 50,000,000 shares of common stock, \$0.0001 par value per share, and 5,000,000 shares of preferred stock, par value \$0.001 per share, in one or more series. Of such preferred stock, 25,000 shares have been designated as Series A Junior Participating Cumulative Preferred Stock, par value \$0.001 per share. As of March 31, 2012, we had outstanding 12,786,339 shares of our common stock and no shares of our preferred stock. At that date, we also had an aggregate of 336,366 shares of common stock reserved for issuance upon exercise of outstanding stock options granted under our stock incentive plans, and an aggregate of 4,691,725 shares of common stock reserved for issuance upon the exercise of outstanding warrants to purchase common stock.

Common Stock

The holders of our common stock are generally entitled to one vote for each share held on all matters submitted to a vote of the stockholders and do not have any cumulative voting rights. Except as may be required by law and in connection with some significant actions, such as mergers, consolidations, or amendments to our certificate of incorporation that affect the rights of stockholders, holders of our common stock vote together as a single class. There is no cumulative voting in the election of our directors, which means that, subject to any rights to elect directors that are granted to the holders of any class or series of preferred stock, a plurality of the votes cast at a meeting of stockholders at which a quorum is present is sufficient to elect a director. Holders of our common stock are entitled to receive proportionally any dividends declared by our Board of Directors, subject to any preferential dividend rights of outstanding preferred stock.

Subject to the preferential rights of any other class or series of stock, all shares of our common stock have equal dividend, distribution, liquidation and other rights, and have no preference, appraisal or exchange rights, except for any appraisal rights provided by Delaware law. Furthermore, holders of our common stock have no conversion, sinking fund or redemption rights, or preemptive rights to subscribe for any of our securities. Our certificate of incorporation and bylaws do not restrict the ability of a holder of our common stock to transfer his or her shares of our common stock.

In the event of our liquidation or dissolution, holders of our common stock are entitled to share ratably in all assets remaining after payment of all debts and other liabilities, subject to the prior rights of any outstanding preferred stock. Holders of our common stock have no preemptive, subscription, redemption or conversion rights. All shares of our common stock will, when issued, be duly authorized, fully paid and nonassessable. The shares to be issued by us upon exercise of the Warrants to be issued in this offering in accordance with the terms of the Warrants, will be when issued and paid for, validly issued, fully paid and nonassessable.

Preferred Stock

Pursuant to our certificate of incorporation, we are authorized to issue “blank check” preferred stock, which may be issued from time to time in one or more series upon authorization by our Board of Directors. Our Board of Directors, without further approval of the stockholders, is authorized to fix the designations, powers, including voting powers, preferences and the relative, participating, optional or other special rights of the shares of each series and any qualifications, limitations and restrictions thereof. The issuance of preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes could, among other things, adversely affect the voting power or other rights of the holders of our common stock and, under certain circumstances, make it more difficult for a third party to gain control of us, discourage bids for our common stock at a premium or otherwise adversely affect the market price of the common stock.

Unit Warrants

On February 13, 2012, we sold 8,530,410 Units, with each Unit consisting of (i) one share of Common Stock and (ii) one Unit Warrant to purchase one half of one share of Common Stock. The Unit Warrants are exercisable at an exercise price of \$1.15 per share during the period commencing on August 13, 2012 and ending February 13, 2017. We do not intend to sell any more Units.

The Unit Warrants will not be listed on the NASDAQ Capital Market or any other securities exchange. The warrant holders do not have the rights or privileges of holders of common stock and any voting rights until they exercise their Unit Warrants and receive shares of common stock.

If this registration statement covering the shares issuable upon exercise of the Warrants contained in the units is not effective at the time of exercise of the Warrants, the Unit Warrants may only be exercised on a “cashless” basis and will be issued with appropriate restrictive legends unless such shares are eligible for resale without restriction under the Securities Act.

We are not required to issue fractional shares upon the exercise of the Unit Warrants. Instead, we may choose to purchase the fraction for an amount in cash equal to the current value of the fraction computed on the basis of the closing market price of a share of our common stock on the NASDAQ Capital Market on the trading day immediately preceding the exercise date of the Unit Warrant.

We will attempt to maintain the effectiveness of a current prospectus covering the common stock issuable upon exercise of the warrants until the expiration of the Warrants. However, we cannot assure you that we will be able to do so. If the prospectus relating to the common stock issuable upon the exercise of the Warrants is not current or if the common stock is not qualified or exempt from qualification in the jurisdictions in which the holders of the Warrants reside, the Warrants may have no value.

The exercise price and the number of shares of common stock issuable upon the exercise of each Unit Warrant are subject to adjustment upon the happening of certain events, such as recapitalizations, reorganizations, mergers or consolidations.

The Unit Warrants provide that no exercise will be effected, and the holder of a Unit Warrant will not have the right to exercise such warrant, if after giving effect to the exercise the holder, together with any affiliates, would beneficially own in excess of 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the issuance of shares upon exercise of such Unit Warrant. For warrant holders owning in excess of 9.99% of our common stock immediately prior to the issuance of the Unit Warrants, the exercise limit is increased to 14.99% of our total shares outstanding.

The Unit Warrants are subject to the terms and conditions of the warrant agent agreement between the Company and American Stock Transfer & Trust Company, LLC, who will serve as the warrant agent. The Unit Warrants were issued in “book entry” form, deposited with the Depository Trust Company and registered in the name of Cede & Co., a nominee of Depository Trust Company. If in the future the Unit Warrants cannot be issued in book entry form, then the warrant agent will issue a unit warrant in physical form.

Shareholder Rights Plan

On March 7, 2007, we entered into a Rights Agreement with American Stock Transfer & Trust Company, as rights agent, and approved the declaration of a dividend distribution of one preferred share purchase right on each outstanding share of our common stock to shareholders of record as of the close of business on March 8, 2007. Each right entitles the registered holder to purchase from us one ten-thousandth of a share of our Series A Junior Convertible Preferred Stock at a price of \$75.00, subject to adjustment.

Initially, the rights are not exercisable and are attached to and trade with all shares of common stock outstanding as of, and issued subsequent to March 8, 2007. The rights will separate from the common stock and will become exercisable upon the earlier of (i) the close of business on the tenth calendar day following the first public announcement that a person or group of affiliated or associated persons, or an Acquiring Person, has acquired beneficial ownership of 15% or more of the outstanding shares of common stock, other than as a result of repurchases of stock by the Company or certain inadvertent actions by a shareholder or (ii) the close of business on the tenth business day (or such later day as our Board of Directors may determine) following the commencement of a tender offer or exchange offer that could result upon its consummation in a person or group becoming the beneficial owner of 15% or more of the outstanding shares of common stock.

The rights may be redeemed in whole, but not in part, at a price of \$0.01 per right (payable in cash, common stock or other consideration deemed appropriate by our board) by the board only until the earlier of (i) the time at which any person becomes an Acquiring Person or (ii) the expiration date of the Rights Agreement. Immediately upon the action of the board ordering redemption of the rights, the rights will terminate and thereafter the only right of the holders of rights will be to receive the redemption price.

The rights will expire on March 8, 2017, unless previously redeemed or exchanged by the Company. The rights distribution was not taxable to stockholders.

Certain Effects of Authorized but Unissued Stock

We have shares of common stock and preferred stock available for future issuance without stockholder approval. We may issue these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital or facilitate corporate acquisitions or for payment as a dividend on our capital stock. The existence of unissued and unreserved common stock and preferred stock may enable our Board of Directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third-party attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of our management. In addition, if we issue preferred stock, the issuance could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation.

Delaware Law and Certificate of Incorporation and Bylaws Provisions

Board of Directors. Our certificate of incorporation provides that:

- our Board of Directors is divided into three classes, as nearly equal in number as possible, to serve staggered terms so that approximately one-third of our board will be elected each year;
- subject to the rights of the holders of any class or series of preferred stock then outstanding, our directors may be removed (i) only with cause and (ii) only by the affirmative vote of the holders of at least seventy-five percent (75%) of the voting power of all of the then outstanding shares then entitled to vote at an election of directors voting together as a single class, unless otherwise specified by law; and
- any vacancy on our Board of Directors, however occurring, including a vacancy resulting from an enlargement of the board, may only be filled by vote of a majority of the directors then in office, even if less than a quorum, or by a sole remaining director, and not by the stockholders.

These provisions could discourage, delay or prevent a change in control of our company or an acquisition of our company at a price which many stockholders may find attractive. The existence of these provisions could limit the price that investors might be willing to pay in the future for shares of our common stock. These provisions may also have the effect of discouraging a third party from initiating a proxy contest, making a tender offer or attempting to change the composition or policies of our Board of Directors.

Stockholder Action; Special Meeting of Stockholders. Our certificate of incorporation and bylaws also provide that:

- stockholder action may be taken only at a duly called and convened annual or special meeting of stockholders and then only if properly brought before the meeting;
- stockholder action may not be taken by written action in lieu of a meeting;
- special meetings of stockholders may be called only by our Board of Directors pursuant to a resolution approved by the affirmative vote of a majority of the directors then in office; and
- in order for any matter to be considered “properly brought” before a meeting, a stockholder must comply with requirements regarding specified information and advance notice to us.

These provisions could delay, until the next stockholders’ meeting, actions which are favored by the holders of a majority of our outstanding voting securities. These provisions may also discourage another person or entity from making a tender offer for our common stock, because a person or entity, even if it acquired a majority of our outstanding voting securities, would be able to take action as a stockholder only at a duly called stockholders’ meeting, and not by written consent.

Liability Limitations and Indemnification

Our certificate of incorporation provides that no director of our company shall be personally liable for any monetary damages for any breach of fiduciary duty as a director, except for liability (i) for any breach of the director’s duty of loyalty to the company or its stockholders, (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) under Section 174 of the General Corporation Law of the State of Delaware, or (iv) for any transaction from which the director derived an improper personal benefit. Our certificate of incorporation also provides that if the General Corporation Law of the State of Delaware is amended to authorize corporate action further eliminating or limiting the personal liability of directors, then the liability of a director of our company shall be eliminated or limited to the fullest extent permitted by the General Corporation Law of the State of Delaware, as so amended. The certificate of incorporation further provides that no amendment to or repeal of these provisions shall apply to or have any effect on the liability or alleged liability of any director for or with respect to any acts or omissions of such director occurring prior to such amendment or repeal. Our certificate of incorporation further provides for the indemnification of our directors and officers to the fullest extent permitted by Section 145 of the Delaware General Corporation Law, including circumstances in which indemnification is otherwise discretionary.

The NASDAQ Capital Market Listing

Our common stock is listed on The NASDAQ Capital Market under the trading symbol “NURO.”

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC.

PLAN OF DISTRIBUTION

Pursuant to the terms of the Warrants, the shares of Common Stock will be issued to those warrant holders who surrender their warrant certificate, together with the payment of the exercise price, which may be done on a cashless basis, to our warrant agent, American Stock Transfer & Trust Company, LLC. If less than all of the Warrants evidenced by a warrant certificate are exercised, a new warrant certificate will be issued for the remaining number of Warrants.

LEGAL MATTERS

The validity of the securities offered by this prospectus has been passed upon for us by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts.

EXPERTS

The financial statements incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2011 have been so incorporated in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement under the Securities Act, as amended, with respect to the shares of common stock we are offering by this prospectus. This prospectus does not contain all of the information included in the registration statement. For further information pertaining to us and our common stock, you should refer to the registration statement and the exhibits and schedules filed with the registration statement. Whenever we make reference in this prospectus to any of our contracts, agreements or other documents, the references are not necessarily complete, and you should refer to the exhibits attached to the registration statement for copies of the actual contract, agreement or other document.

We are subject to the informational requirements of the Exchange Act and file annual, quarterly and current reports, proxy statements and other information with the SEC. You can read our SEC filings, including the registration statement, over the Internet at the SEC's website at www.sec.gov. You may also read and copy any document we file with the SEC at its Public Reference Room at 100 F Street, N.E., Washington, D.C., 20549. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference facility.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus the information contained in other documents we file with the SEC, which means that we can disclose important information to you by referring you to those documents. Any statement contained in any document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded, for purposes of this prospectus, to the extent that a statement contained in or omitted from this prospectus, or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein, modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus. We incorporate by reference the documents listed below which have been filed by us and any future filings we make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until the offering is completed:

1. Our Annual Report on Form 10-K for the year ended December 31, 2011;
2. Our Definitive Proxy Statement on Schedule 14A filed with the SEC on April 16, 2012;
3. Our Quarterly Report on Form 10-Q for the quarter ended March 31, 2012;
4. Our Current Reports on Form 8-K filed with the SEC on February 8, 2012, March 13, 2012, March 23, 2012 and April 2, 2012;
5. The description of our common stock contained in our Registration Statement on Form 8-A filed pursuant to Section 12(g) of the Exchange Act, filed with SEC on July 19, 2004; and
6. The description of our preferred share purchase rights contained in our Registration Statement on Form 8-A filed pursuant to Section 12(b) of the Exchange Act, filed with the SEC on March 8, 2007.

Upon written or oral request, we will provide without charge to each person to whom a copy of the prospectus is delivered a copy of the documents incorporated by reference herein (other than exhibits to such documents unless such exhibits are specifically incorporated by reference herein). You may request a copy of these filings, at no cost, by writing or telephoning us at the following address and telephone number: 62 Fourth Avenue, Waltham, Massachusetts, 02451, (781) 890-9989. We have authorized no one to provide you with any information that differs from that contained in this prospectus. Accordingly, you should not rely on any information that is not contained in this prospectus. You should not assume that the information in this prospectus is accurate as of any date other than the date of the front cover of this prospectus.

NEUROMetrix[®]

PART II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution

The following table sets forth the costs and expenses, other than the placement agent fees, payable by us in connection with this offering.

SEC registration fee	\$	1,880
FINRA fee		2,220
Legal fees and expenses		172,800
Accounting fees and expenses		101,500
Printing expenses		36,013
Miscellaneous		29,016
	\$	<u>343,429</u>

Item 15. Indemnification of Directors and Officers

Our amended and restated certificate of incorporation provides that we shall indemnify, to the fullest extent authorized by the Delaware General Corporation Law, each person who is involved in any litigation or other proceeding because such person is or was our director or officer or is or was serving as an officer or director of another entity at our request, against all expense, loss or liability reasonably incurred or suffered in connection therewith. Our amended and restated certificate of incorporation provides that the right to indemnification includes the right to be paid expenses incurred in defending any proceeding in advance of its final disposition, provided, however, that such advance payment will only be made upon delivery to us of an undertaking, by or on behalf of the director or officer, to repay all amounts so advanced if it is ultimately determined that such director is not entitled to indemnification. If we do not pay a proper claim for indemnification in full within 10 days after we receive a written claim for such indemnification, our amended and restated certificate of incorporation and our restated bylaws authorize the claimant to bring an action against us and prescribe what constitutes a defense to such action.

Section 145 of the Delaware General Corporation Law permits a corporation to indemnify any director or officer of the corporation against expenses (including attorney's fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with any action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in right of the corporation) brought by reason of the fact that such person is or was a director or officer of the corporation, if such person acted in good faith and in a manner that he reasonably believed to be in, or not opposed to, the best interests of the corporation, and, with respect to any criminal action or proceeding, if he or she had no reason to believe his or her conduct was unlawful. In a derivative action, (i.e., one brought by or on behalf of the corporation), indemnification may be provided only for expenses actually and reasonably incurred by any director or officer in connection with the defense or settlement of such an action or suit if such person acted in good faith and in a manner that he or she reasonably believed to be in, or not opposed to, the best interests of the corporation, except that no indemnification shall be provided if such person shall have been adjudged to be liable to the corporation, unless and only to the extent that the court in which the action or suit was brought shall determine that the defendant is fairly and reasonably entitled to indemnity for such expenses despite such adjudication of liability.

Pursuant to Section 102(b)(7) of the Delaware General Corporation Law, Article Seventh of our amended and restated certificate of incorporation eliminates the liability of a director to us or our stockholders for monetary damages for such a breach of fiduciary duty as a director, except for liabilities arising:

- from any breach of the director's duty of loyalty to us or our stockholders;
- from acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- under Section 174 of the Delaware General Corporation Law; and
- from any transaction from which the director derived an improper personal benefit.

As permitted by Section 145 of the Delaware General Corporation Law, we carry insurance policies insuring our directors and officers against certain liabilities that they may incur in their capacity as directors and officers.

Item 16. Exhibits

The exhibits filed with this registration statement are set forth on the exhibit index following the signature page and are incorporated by reference in their entirety into this item.

Item 17. Undertakings

The undersigned registrant hereby undertakes:

- (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement;
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

Provided however, that:

- A. Paragraphs (a)(1)(i) and (a)(1)(ii) of this section do not apply if the registration statement is on Form S-8, and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement; and
- B. Paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) of this section do not apply if the registration statement is on Form S-3 or Form F-3 and the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

- (2) That, for purposes of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:
 - (i) If the registrant is relying on Rule 430B:
 - A. Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and
 - B. Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date; or
 - (ii) If the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.
- (5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities:

The undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

- (i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;
- (ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;
- (iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) The undersigned registrant hereby undertakes to deliver or cause to be delivered with the prospectus, to each person to whom the prospectus is sent or given, the latest annual report, to security holders that is incorporated by reference in the prospectus and furnished pursuant to and meeting the requirements of Rule 14a-3 or Rule 14c-3 under the Securities Exchange Act of 1934; and, where interim financial information required to be presented by Article 3 of Regulation S-X is not set forth in the prospectus, to deliver, or cause to be delivered to each person to whom the prospectus is sent or given, the latest quarterly report that is specifically incorporated by reference in the prospectus to provide such interim financial information.

(d) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers, and controlling persons of the registrant pursuant to the foregoing provisions, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

(e) The undersigned registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act of 1933, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this registration statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act of 1933, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of these securities at that time shall be deemed to be the initial bona fide offering.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Post-Effective Amendment No. 2 to the Registration Statement on Form S-1 on Form S-3 to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Waltham, Commonwealth of Massachusetts, on April 24, 2012.

NEUROMETRIX, INC.

By: /s/ Shai N. Gozani
Shai N. Gozani, M.D., Ph.D.
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, this Post-Effective Amendment No. 2 to the Registration Statement on Form S-1 on Form S-3 has been signed by the following persons in the capacities and on the date indicated.

Signature	Title	Date
<u>/s/ Shai N. Gozani</u> Shai N. Gozani, M.D., Ph.D.	Chairman, President and Chief Executive Officer (Principal Executive Officer)	April 24, 2012
<u>/s/ Thomas T. Higgins</u> Thomas T. Higgins	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial Officer and Principal Accounting Officer)	April 24, 2012
* David E. Goodman, M.D.	Director	April 24, 2012
* Allen J. Hinkle M.D.	Director	April 24, 2012
* Nancy E. Katz	Director	April 24, 2012
* Charles R. LaMantia	Director	April 24, 2012
* Timothy R. Surgenor	Director	April 24, 2012
* <u>/s/ Thomas T. Higgins</u> Thomas T. Higgins, Attorney-in-fact		April 24, 2012

EXHIBIT INDEX

Exhibit Number	Description
4.1	Specimen Certificate for Shares of Common Stock ⁽¹⁾
4.2.1	Shareholder Rights Agreement, dated as of March 7, 2007, between NeuroMetrix, Inc. and American Stock Transfer & Trust Company, as Rights Agent ⁽²⁾
4.2.2	Amendment to Shareholder Rights Agreement, dated September 8, 2009, between NeuroMetrix, Inc. and American Stock Transfer & Trust Company, as Rights Agent ⁽³⁾
4.3**	Form of Unit Warrant to purchase Common Stock
4.4**	Form of Placement Agent Warrant
5.1**	Opinion of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
23.1*	Consent of PricewaterhouseCoopers LLP, an independent registered public accounting firm
23.2**	Consent of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. (included in Exhibit 5.1)
24.1**	Power of Attorney (included on signature page to the initial registration statement)

* Filed herewith.

** Previously filed with NeuroMetrix's Registration Statement on Form S-1, initially filed on November 23, 2011, as amended (Registration No. 333-178165).

+ Indicates management contract or any compensatory plan, contract or arrangement.

(1) Incorporated herein by reference to NeuroMetrix, Inc.'s Registration Statement on Form S-1, initially filed on May 13, 2004, as amended (Registration No. 333-115440).

(2) Incorporated herein by reference to NeuroMetrix, Inc.'s Form 8-A12(b) filed on March 8, 2007 (File No. 001-33351).

(3) Incorporated herein by reference to NeuroMetrix, Inc.'s Current Report on Form 8-K filed September 14, 2009 (File No. 001-33351).

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We hereby consent to the incorporation by reference in this Post-Effective Amendment No. 2 to Form S-1 on Form S-3 (File No. 333-178165) of our report dated February 24, 2012 relating to the financial statements and financial statement schedule of NeuroMetrix, Inc. (the "Company"), which appears in the Company's Annual Report on Form 10-K for the year ended December 31, 2011. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP

Boston, Massachusetts

April 24, 2012
