June 29, 2023

Renalytix AI, Inc.
Joe Hutson
Vice-President, Quality and Regulatory
1460 Broadway
New York, New York 10036

Re: DEN200052
Trade/Device Name: KidneyIntelX.dkd
Regulation Number: 21 CFR 862.1223
Regulation Name: Prognostic test for assessment of chronic kidney disease progression
Regulatory Class: Class II
Product Code: QWZ
Dated: October 19, 2022
Received: October 19, 2022

Dear Joe Hutson:

The Center for Devices and Radiological Health (CDRH) of the Food and Drug Administration (FDA) has completed its review of your De Novo request for classification of the KidneyIntelX.dkd, a prescription device with the following indications for use:

> KidneyIntelX.dkd is for in-vitro diagnostic use for the determination of a KidneyIntelX.dkd Level using an algorithm to combine clinical variables (blood urea nitrogen (BUN), hemoglobin A1c (HbA1c) and urine albumin creatinine ratio (uACR)) and the quantitative measurements of tumor necrosis factor receptor-1 (TNFR-1), tumor necrosis factor receptor-2 (TNFR-2) and kidney injury molecule-1 (KIM-1) in human plasma employing a Meso Sector S 600 electrochemiluminescence immunoassay. It is indicated for use as an aid in assessment of the risk of progressive decline in kidney function (sustained decrease in eGFR greater than or equal to 40% lasting more than 3 months) within a period of up to 5 years following KidneyIntelX.dkd Level measurement in adult patients with type 2 diabetes and existing chronic kidney disease (defined for the purposes of this device as patients with an estimated glomerular filtration rate of 30-59 ml/min/1.73m$^2$ or eGFR $\geq$ 60 ml/min/1.73m$^2$ with albuminuria (uACR $\geq$ 30 mg/g)).
> KidneyIntelX.dkd is not intended for screening or as a stand-alone diagnostic test.

FDA concludes that this device should be classified into Class II. This order, therefore, classifies the KidneyIntelX.dkd, and substantially equivalent devices of this generic type, into Class II under the generic name prognostic test for assessment of chronic kidney disease progression.

FDA identifies this generic type of device as:

> **Prognostic test for assessment of chronic kidney disease progression**. A prognostic test for assessment of chronic kidney disease progression is an in vitro diagnostic device intended to measure one or more analytes obtained from human samples as an aid in assessing the risk for progression of chronic kidney disease. This device is not intended for diagnosis of any disease, for serial monitoring of kidney disease progression, or for monitoring the effect of any therapeutic product.

Section 513(f)(2) of the Food, Drug and Cosmetic Act (the FD&C Act) was amended by section 607 of the Food and Drug Administration Safety and Innovation Act (FDASIA) on July 9, 2012. This law provides two options for De Novo classification. First, any person who receives a "not substantially equivalent" (NSE) determination in response to a 510(k) for a device that has not been previously classified under the Act may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act. On December 13, 2016, the 21st Century Cures Act removed a requirement that a De Novo request be submitted within 30 days of receiving an NSE determination. Alternatively, any person who determines that there is no legally marketed device upon which to base a determination of substantial equivalence may request FDA to make a risk-based classification of the device under section 513(a)(1) of the Act without first submitting a 510(k). FDA shall, within 120 days of receiving such a request, classify the device. This classification shall be the initial classification of the device. Within 30 days after the issuance of an order classifying the device, FDA must publish a notice in the Federal Register announcing the classification.

On August 26, 2020, FDA received your De Novo requesting classification of the KidneyIntelX.dkd. The request was submitted under section 513(f)(2) of the FD&C Act. In order to classify the KidneyIntelX.dkd into class I or II, it is necessary that the proposed class have sufficient regulatory controls to provide reasonable assurance of the safety and effectiveness of the device for its intended use. After review of the information submitted in the De Novo request FDA has determined that, for the previously stated indications for use, the KidneyIntelX.dkd can be classified in class II with the establishment of special controls for class II. FDA believes that class II (special) controls provide reasonable assurance of the safety and effectiveness of the device type. The identified risks and mitigation measures associated with the device type are summarized in the following table:

| **Risks to Health** | **Mitigation Measures** |
|---|---|
| Incorrect performance of the device leading to false positive, false negative or failure to provide a result | Certain design verification and validation activities and documentation.<br><br>Certain labeling information, including certain limiting statements and performance characteristics. |
| Incorrect interpretation of test results | Certain design verification and validation activities and documentation.<br><br>Certain labeling information, including certain limiting statements and performance characteristics. |

In combination with the general controls of the FD&C Act, the prognostic test for assessment of chronic kidney disease progression is subject to the following special controls:

(1) Design verification and validation must include:
    (i) Detailed documentation of a clinical study that includes the following:
        (A) Information that demonstrates the clinical performance of the device in a population of patients with chronic kidney disease at the different reported risk categories for progression of their disease (e.g., at lower risk, at increased risk) using samples from the intended use population collected from multiple intended sample collection sites, or through an alternative approach determined to be appropriate by FDA;
        (B) Information that demonstrates the measured outcomes and the length of follow-up are clinically relevant to demonstrate the progression of the chronic kidney disease; and
        (C) A description of subjects from the target population (e.g., the severity of underlying disease) and any exclusion or inclusion criteria.
    (ii) Detailed documentation of a reference interval study that includes:
        (A) Data generated in samples from healthy individuals; and
        (B) Estimation of the upper and lower limits of the reference intervals and percentages of healthy individuals in each device-identified risk category.
    (iii) When appropriate, detailed information that demonstrates the precision of the numeric values of the device output (score) based on the precision profiles of each individual input.
    (iv) When appropriate, detailed information on the impact of the cumulative effect of potential interferents on the numeric values of the device output (score) based on the information known or determined for the potential of interference for each individual input.
(2) The labeling required under 21 CFR 809.10(b) must include:
    (i) Limiting statements indicating that:
        (A) The test results are not intended to diagnose any disease or condition;
        (B) The test results are intended to be used in conjunction with other clinical and diagnostic findings, consistent with professional standards of practice, including information obtained by alternative methods, and clinical evaluation, as appropriate;
        (C) The device is not intended for serial monitoring of kidney disease progression or for monitoring the effect of any therapeutic product.
    (ii) Limiting statements, where applicable, describing the limitations on the clinical interpretations of the test results.
    (iii) Limiting statements, where applicable, describing the limitations to the data generated in the clinical study(ies).
    (iv) Detailed information on device performance in relevant subgroups (e.g., severity of chronic kidney disease determined at the beginning of the observation period in the clinical study).

Although this letter refers to your product as a device, please be aware that some granted products may instead be combination products. If you have questions on whether your product is a combination product, contact CDRHProductJurisdiction@fda.hhs.gov.

Section 510(m) of the FD&C Act provides that FDA may exempt a class II device from the premarket notification requirements under section 510(k) of the FD&C Act, if FDA determines that premarket notification is not necessary to provide reasonable assurance of the safety and effectiveness of the device type. FDA has determined premarket notification is necessary to provide reasonable assurance of the safety

and effectiveness of the device type and, therefore, the device is not exempt from the premarket notification requirements of the FD&C Act. Thus, persons who intend to market this device type must submit a premarket notification containing information on the prognostic test for assessment of chronic kidney disease progression they intend to market prior to marketing the device.

Please be advised that FDA's decision to grant this De Novo request does not mean that FDA has made a determination that your device complies with other requirements of the FD&C Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the FD&C Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Parts 801 and 809); medical device reporting (reporting of medical device-related adverse events) (21 CFR 803) for devices or postmarketing safety reporting (21 CFR 4, Subpart B) for combination products (see https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR 4, Subpart A) for combination products; and if applicable, the electronic product radiation control provisions (Sections 531-542 of the FD&C Act; 21 CFR 1000-1050).

A notice announcing this classification order will be published in the Federal Register. A copy of this order and supporting documentation are on file in the Dockets Management Branch (HFA-305), Food and Drug Administration, 5630 Fishers Lane, Room 1061, Rockville, MD 20852 and are available for inspection between 9 a.m. and 4 p.m., Monday through Friday.

As a result of this order, you may immediately market your device as described in the De Novo request, subject to the general control provisions of the FD&C Act and the special controls identified in this order.

For comprehensive regulatory information about medical devices and radiation-emitting products, please see Device Advice (https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance) and CDRH Learn (https://www.fda.gov/training-and-continuing-education/cdrh-learn). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/contact-us-division-industry-and-consumer-education-dice) for more information or contact DICE by email (DICE@fda.hhs.gov) or phone (1-800-638-2041 or 301-796-7100).

If you have any questions concerning the contents of the letter, please contact Adam Coleman at adam.coleman@fda.hhs.gov.

Sincerely,

Marianela Perez-torres -S

Marianela Perez-Torres, Ph.D.
Acting Director
Division of Chemistry and Toxicology Devices
OHT7: Office of In Vitro Diagnostics
Office of Product Evaluation and Quality
Center for Devices and Radiological Health