

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FORESIGHT DIAGNOSTICS INC.,
Petitioner,

v.

PERSONALIS, INC.,
Patent Owner.

Case Nos. IPR2023-00224 and IPR2023-00317
U.S. Patent Nos. 11,384,394 and 11,408,033

DECLARATION OF DAN NORTON

TABLE OF CONTENTS

Page No.

I. BACKGROUND AND QUALIFICATIONS	1
II. INDUSTRY PRAISE FOR PERSONALIS' NEXT PERSONAL [®] ASSAY	2
A. The Scientist Magazine praise for NeXT Personal [®]	2
B. TRACERx praise for NeXT Personal [®]	5
C. AstraZeneca's trust and recognition for NeXT Personal [®]	6
III. CERTIFICATION	7

LIST OF EXHIBITS CITED

Exhibit No.	Description
2001	The Scientist Staff, “2022 Top 10 Innovations,” Dec. 12, 2022, available at https://www.the-scientist.com/features/2022-top-10-innovations-70792
2153	“Personalis MRD Assays to Support UK’s TRACERx ctDNA Monitoring Study,” Precision Medicine Online, April 5, 2023
2154	“Personalis, AstraZeneca Extend Collaboration Around Residual Cancer Detection Test,” GenomeWeb, March 7, 2023
2156	Labrousse, “MATRIX plasma-in-plasma contrived samples assessment and detection of MRD using the Personalis NeXT Personal assay,” American Society of Clinical Oncology, e15056, 2023

1. I, Dan Norton, make this Declaration in connection with *inter partes* review proceedings at the U.S. Patent & Trademark Office concerning U.S. Patent No. 11,384,394 (“the ’394 patent”) and U.S. Patent No. 11,408,033 (“the ’033 patent”).

2. This declaration discusses examples of industry praise for Personalis’ NeXT Personal[®] assay that have been provided by The Scientist Magazine, Precision Medicine Online, and GenomeWeb.

I. BACKGROUND AND QUALIFICATIONS

3. I am Director of Product Management at Personalis, Inc. I have held this position from August 2023 to present. I was previously the Associate Director of Product Management for Liquid Biopsies at Personalis from January 2022 until August 2023. Before that, I was the Senior Product Manager of Immuno-Oncology at Personalis from November 2018 until January 2022.

4. I was a Senior Product Manager of Droplet Digital Sequencing at Bio-Rad Laboratories from March 2017 until November 2018.

5. I was a Product Manager of DNA Applications at Illumina, Inc. from September 2014 until March 2017. I was a Senior Program Manager of Genomic Solutions at Illumina from October 2012 until September 2014.

6. I was a Business Development Manager at Althea Technologies from December 2011 until October 2012. I was a Project Manager at Althea from 2008 until December 2011.

7. I was a Senior Production Specialist / Project Lead at Bayer Health Care from 2006-2008. I was a Production Specialist at Bayer from 2004-2006.

8. I earned a Masters of Business Administration from the University of California, San Diego in 2011.

9. I earned a Bachelors of Science in Microbiology, Immunology & Molecular Genetics and Neuroscience from the University of California, Los Angeles in 2004.

II. INDUSTRY PRAISE FOR PERSONALIS' NeXT PERSONAL[®] ASSAY

10. Personalis' NeXT Personal[®] assay has received widespread attention and praise. Below, I discuss three examples of industry praise for Personalis' NeXT Personal[®] assay.

A. The Scientist Magazine praise for NeXT Personal[®]

11. The Scientist Magazine ranked Personalis' NeXT Personal[®] assay as the top innovation of 2022. *See* Exhibit 2001 at 1-2. This recognition is evidence of industry attention and praise that Personalis has received for its NeXT Personal[®] assay.

12. I was interviewed by The Scientist Magazine in connection with their “2022 Top 10 Innovations” article that published in the December 2022, Issue 2 of that magazine. The article includes the following paragraph:

Using 1 mm³ of tumor tissue sampled from a patient, Personalis’s lab performs whole genome sequencing to identify up to 1,800 single-nucleotide variants. These patient-specific mutations are used to design a panel of primers targeting those regions for sequencing in future blood biopsies. The assay also includes primers for other known cancer-related genes, says Dan Norton, associate director for product management at Personalis. “We can see if there are other variants emerging that have a precision therapy associated that may be more effective for that patient.”

When The Scientist Magazine interviewed me, I remember being pressed for time such that I didn’t have a chance to confer with members of the Personalis scientific team regarding details of the NeXT Personal assay. I have since been informed by members of the Personalis scientific team that the sentence in the article stating that Personalis’ NeXT Personal® assay involves “patient-specific mutations [that] are used to design a panel of *primers* targeting those regions for sequencing in future blood biopsies” is incorrect. I have been informed that the NeXT Personal® assay involves patient-specific mutations that are used to design a panel of *capture probes* targeting regions for sequencing in future blood biopsies. I have been informed that capture probes are nucleic acid sequences that hybridizes to target DNA, either in

solution or on a solid support, so that one can physically capture and isolate the targeted DNA.

13. I understand that the Board has determined that a person of ordinary skill in the art related to the '394 and '033 patents would have had the following credentials at the time of invention in the 2012-2013 timeframe:

- (1) an advanced degree (such as an M.D. or the equivalent of a Ph.D. in a life or physical sciences, engineering, or mathematics discipline),
- (2) an understanding of various sequencing and next generation sequencing methods, sample preparation methods, targeted enrichment methods, bioinformatics methods for interpreting sequencing data, and methods for identifying genetic variants in a sample,
- (3) an understanding of clinical applications of sequencing technology to conditions associated with nucleic acid variation, such as cancer, non-invasive prenatal testing, and transplant rejection, and
- (4) an understanding of cancer biology as it relates to mutations associated with tumor diagnosis, progression, and treatment, as well as awareness of the various types of mutations that can occur in and influence the course of a patient's cancer.

I am not a person of ordinary skill in the art. For example, I do not have an advanced degree such as an M.D. or the equivalent of a Ph.D. in a life or physical sciences, engineering, or mathematics discipline.

B. TRACERx praise for NeXT Personal[®]

14. Another example of industry praise and attention is contained in the article entitled “Personalis MRD Assays to Support UK’s TRACERx ctDNA Monitoring Study” that was published by Precision Medicine Online on April 5, 2023. Exhibit 2153 is a true and correct copy of this article.

15. This article reports that three institutions (Cancer Research UK, University College London, and the Francis Crick Institute) “have adopted Personalis’ NeXT Personal, a personalized residual disease detection platform in their TRACERx study.” The “TRACing Cancer Evolution through therapy (RX)” or “TRACERx” study is a large, United Kingdom-based research initiative that aims to transform the understanding of non-small cell lung cancer and to make precision medicine for lung cancer patients a reality using cutting-edge methods to collect and analyze genomic data. As the flagship lung cancer study of Cancer Research UK, the on-going TRACERx study has been conducted for over nine years and resulted in numerous peer-reviewed publications in top-tier journals such as Nature and the New England Journal of Medicine; those published results have included data from two prior generations of MRD assays.

16. This article also includes a quote from Dr. Charles Swanton, the principal investigator of the TRACERx study, that “Personalis’ highly sensitive test will allow us to achieve a rich understanding of the complex tumor ecosystem,

including by tracking clinically relevant ctDNA variants at recurrence, and ultimately allowing us to make more informed decisions about patient care.”

17. The adoption of Personalis’ NeXT Personal[®] assay by these three UK institutions, as well as the praise from Dr. Swanton regarding the assay’s high sensitivity, provides significant evidence of industry recognition and attention received by Personalis’ NeXT Personal[®] assay.

C. AstraZeneca’s trust and recognition for NeXT Personal[®]

18. Another example of industry praise and attention is contained in the article entitled “Personalis, AstraZeneca Extend Collaboration Around Residual Cancer Detection Test” that was published by GenomeWeb on March 7, 2023. Exhibit 2154 is a true and correct copy of this article.

19. This article reports that AstraZeneca and Personalis have decided to continue its ongoing collaboration “to explore the cancer sequencing firm’s NeXT Personal[®] molecular residual disease (MRD) test in clinical research and drug development.” AstraZeneca’s ongoing collaboration with Personalis to use the NeXT Personal[®] assay for clinical research and drug development provides evidence of industry trust and recognition for the high sensitivity and specificity provided by Personalis’ NeXT Personal[®] assay.

20. In reaching its decision, AstraZeneca evaluated the performance of the NeXT Personal[®] assay using a plasma-in-plasma contrived sample study design that

was developed to enable AstraZeneca to robustly assess the analytical performance (e.g., sensitivity, specificity) of emerging MRD assays for use with clinical samples. AstraZeneca submitted an abstract describing the successful results of this evaluation to the 2023 American Society of Clinical Oncology Annual Meeting. Exhibit 2156 is a true and correct copy of this abstract. In it, AstraZeneca reports that “[t]he Personalis NeXT Personal[®] assay shows ultra-high sensitivity with reproducible data down to the 1-3 PPM range, and expansion of the personalized panel fixed clinical content allows tracking of more driver and resistance mutations with no impact to the MRD sensitivity.”

III. CERTIFICATION

21. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Dated: October 3, 2023

By: *Daniel S. Norton*

Dan Norton