PATENTS

Proteomics

Recent patents related to methods of proteomic screening, identification and analysis.

Patent number	Description	Assignee	Inventor	Date
US 10,379,126	Compositions and methods for proteomic analysis. In particular, compositions and methods for performing mass spectrometry-based protein quantitation analysis.	The Regents of the University of Michigan (Ann Arbor, MI, USA)	Zhu H	8/13/2019
US 10,350,599	A microfluidic exosome profiling platform integrating exosome isolation and targeted proteomic analysis, capable of quantitative exosomal biomarker profiling directly from plasma samples with markedly enhanced sensitivity and specificity.	University of Kansas (Lawrence, KS, USA), Kansas State University Research Foundation (Manhattan, KS, USA)	Zhao Z, He M, Zeng Y	7/16/2019
US 10,345,300	A proteomic approach for identification of specific bacterial protein profiles that may be used in the development of methods for the diagnosis of bacterial chronic sinusitis. The invention provides for methods for determining the presence of pathogenic bacteria in the upper respiratory tract of a subject using protein profiles of the pathogenic bacteria. The invention also provides for methods of diagnosing a bacterial infection of the upper respiratory tract of a subject using protein profiles of a pathogenic bacterium. In addition, the invention provides for devices, immunoassays and kits for identifying pathogenic bacteria in the upper respiratory tract.	Nationwide Children's Hospital (Columbus, OH, USA), The Ohio State University (Columbus, OH, USA)	Das S, Bakaletz LO	7/9/2019
US 10,145,851	Methods for the analysis, including the serial analysis, of very small samples of tissue utilizing a nanofluidic proteomic immunoassay (NIA) to quantify total and low-abundance protein isoforms in a small amount of lysate. NIA detection accurately measures oncoprotein expression and activation in limited clinical specimens, including isoforms that differ in post-translational modifications, such as phosphorylation and the like.	The Board of Trustees of Stanford University (Stanford, CA, USA)	Felsher DW, Fan A	12/4/2018
US 10,126,305	A proteomic expression platform to identify age-related sepsis risk using patients with community-acquired pneumonia. A semi-quantitative plasma proteomics workflow was applied. A protein profile was determined that exhibits statistically significant differences in expression levels among patients with severe sepsis as a function of age.	University of Pittsburgh of the Commonwealth System of Higher Education (Pittsburgh, PA, USA)	Kellum JA, Cao Z, Angus D, Yende SP, Robinson RAS	11/13/2018
US 10,061,887	Methods for identifying a modulator of a biological system, including establishing a model for the biological system comprising cells, obtaining a first dataset representing the global proteome in the cells and obtaining a second data set representing one or more functional activities or cellular responses of the cells, including global enzymatic activity and/or an effect of global enzyme activity on enzyme metabolites or substrates in the cells.	Berg LLC (Framingham, MA, USA)	Vishnudas VK, Sarangarajan R, Narain NR, Du M, Walshe T	8/28/2018
US 10,060,912	Methods for proteomic screening on random protein-bead arrays by mass spectrometry. Photocleavable mass tags are utilized to code a protein library (bait molecules) displayed on beads randomly arrayed in an array substrate. A library of probes (prey) can be mixed with the protein-bead array to query the array. Because mass spectrometry can detect multiple mass tags, it is possible to rapidly identify all of the interactions resulting from this mixing.	AmberGen (Watertown, MA, USA)	Lim MJ, Bergo VB, Rothschild KJ	8/28/2018
US 10,024,860	Proteomic methods for identifying cancer-related proteins and related products and kits. The cancer-specific proteins are extracellular matrix proteins that are associated with various aspects of cancer. Panels or signature sets of proteins useful in the detection, diagnosis and treatment of cancers as well as monitoring therapeutic progress in a cancer patient are provided, along with methods for their detection and for their use in targeting imaging and/or therapeutic agents to the tumors via binding to the specified proteins.	Massachusetts Institute of Technology (Cambridge, MA, USA), The General Hospital Corp. (Boston), Broad Institute (Cambridge, MA, USA)	Hynes RO, Naba A, Clauser K, Carr SA, Tanabe K	7/17/2018

Source: United States Patent and Trademark Office (<http://www.uspto.gov>).

Published online: 2 October 2019

<https://doi.org/10.1038/s41587-019-0276-y>