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(54) **METHODS AND MATERIALS FOR MONITORING MYELOMA USING QUANTITATIVE MASS SPECTROMETRY**

(71) Applicant: **H. Lee Moffitt Cancer Center and Research Institute, Inc.**, Tampa, FL (US)

(72) Inventors: **John Matthew Koomen**, Tampa, FL (US); **Elizabeth Renee Remily**, Lutz, FL (US); **Kaaron Benson**, Apollo Beach, FL (US); **Mohamad Hussein**, Odessa, FL (US)

(73) Assignee: **H. Lee Moffitt Cancer Center and Research Institute, Inc.**, Tampa, FL (US)

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See application file for complete search history.

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Primary Examiner — James H Alstrum Acevedo
Assistant Examiner — Tara Martinez
(74) *Attorney, Agent, or Firm* — Meunier Carlin & Curfman LLC

(57) **ABSTRACT**

The subject invention concerns methods and materials for diagnosing, monitoring the progress, and/or providing a prognosis for multiple myeloma and other conditions associated with antibody production in a person or animal. The methods of the invention utilize mass spectrometry for quantitative monitoring and detection of antibody produced by the plasma cells. The methods of the invention can be utilized for diagnosis, monitoring, and/or prognosis of multiple myeloma, monoclonal gammopathy, and other immunological or hematological conditions and disorders. In addition to detecting and quantifying antibody in a sample, other biological markers, such as serum albumin and/or beta-2-microglobulin, can also be detected and quantified using the present invention, and in combination with detection and quantification of antibody. Thus, in one embodiment, both antibody and serum albumin and/or beta-2-microglobulin are detected and quantified using mass spectrometry and a diagnosis or prognosis made based on the results and levels detected.