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(54) Title: NOVEL ANTI-CD38 ANTIBODIES FOR THE TREATMENT OF CANCER

(57) Abstract: Antibodies, humanized antibodies, resurfaced antibodies, antibody fragments, derivatized antibodies, and conjugates of same with cytotoxic agents, which specifically bind to CD38, are capable of killing $CD38^+$ cells by apoptosis, antibody-dependent cell-mediated cytotoxicity (ADCC), and/or complement-dependent cytotoxicity (CDC). Said antibodies and fragments thereof may be used in the treatment of tumors that express CD38 protein, such as multiple myeloma, chronic lymphocytic leukemia, chronic myelogenous leukemia, acute myelogenous leukemia, or acute lymphocytic leukemia, or the treatment of autoimmune and inflammatory diseases such as systemic lupus, rheumatoid arthritis, multiple sclerosis, erythematosus, and asthma. Said derivatized antibodies may be used in the diagnosis and imaging of tumors that express elevated levels of CD38. Also provided are cytotoxic conjugates comprising a cell binding agent and a cytotoxic agent, therapeutic compositions comprising the conjugate, methods for using the conjugates in the inhibition of cell growth and the treatment of disease, and a kit comprising the cytotoxic conjugate. In particular, the cell binding agent is a monoclonal antibody, and epitope-binding fragments thereof, that recognizes and binds the CD38 protein.

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