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(54) Title: METHODS OF TREATING AUTOIMMUNE DISEASES WITH DLL4 ANTAGONISTS

(57) Abstract: The present invention provides methods of treating a disease or disorder, in which increasing the number of regulatory T cell (Treg) is beneficial, by administering to a subject suffering from such a disease or disorder a therapeutically effective amount of DII4 antagonists that block DII4-Notch signal pathways, thereby increasing the number of Treg. Diseases or disorders treatable by the methods of the invention include autoimmune diseases or disorders, such as multiple sclerosis (MS), diabetes, and the like. Suitable DII4 antagonists for the invention include antibodies or antibody fragments that specifically bind DII4 and block DII4- Notch interactions, the extracellular domain of DII4, and the like. The invention also provides methods of preventing an occurrence or recurrence of such diseases or disorders in a subject predisposed or susceptible to developing such diseases or disorders. Furthermore, the methods of the invention are useful in preventing or treating organ transplant rejections or graft- versus-host disease.