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(54) Title: IDENTIFICATION OF UNIQUE BINDING INTERACTIONS BETWEEN CERTAIN ANTIBODIES AND THE HUMAN B7.1 AND B7.2 CO-STIMULATORY ANTIGENS

(57) Abstract

The present invention relates to the identification of antibodies which are specific to human B7.1 antigen (CD80) and which are capable of inhibiting the binding of B7.1 to a CD28 receptor and which are not capable of inhibiting the binding of B7.1 to a CTLA–4 receptor. Two of these antibodies, 16C10 and 7C10, significantly inhibit the production of IL–2, in spite of the existence of a second activating ligand B7.2 (CD86). Blocking of the primary activation signal between CD28 and B7.1 (CD80) with these antibodies while allowing the unimpaired or coincident interaction of CTLA–4 and B7.1 and/or B7.2 represents a combined antagonistic effect on positive co–stimulation with an agonistic effect on negative signalling. These antibodies may be used as specific immunosuppressants, e.g., for the treatment of autoimmune diseases and to prevent organ transplant rejection.