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Avelumab

National Cancer Institute

Source

National Cancer Institute. *Avelumab*. NCI Thesaurus. Code C116870.

A human immunoglobulin G1 (IgG1) monoclonal antibody directed against the human immunosuppressive ligand programmed death-ligand 1 (PD-L1) protein, with potential immune checkpoint inhibitory and antineoplastic activities. Upon administration, avelumab binds to PD-L1 and prevents the interaction of PD-L1 with its receptor programmed cell death protein 1 (PD-1). This inhibits the activation of PD-1 and its downstream signaling pathways. This may restore immune function through the activation of cytotoxic T-lymphocytes (CTLs) targeted to PD-L1-overexpressing tumor cells. In addition, avelumab induces an antibody-dependent cellular cytotoxic (ADCC) response against PD-L1-expressing tumor cells. PD-1, a cell surface receptor belonging to the immunoglobulin superfamily expressed on T-cells, negatively regulates T-cell activation and effector function when activated by its ligand, and plays an important role in tumor evasion from host immunity. PD-L1, a transmembrane protein, is overexpressed on a variety of tumor cell types and is associated with poor prognosis.