Atezolizumab

National Cancer Institute

Source

National Cancer Institute. Atezolizumab. NCI Thesaurus. Code C106250.

A humanized, Fc optimized, monoclonal antibody directed against the protein ligand PD-L1 (programmed cell death-1 ligand 1), with potential immune checkpoint inhibitory and antineoplastic activities. Atezolizumab binds to PD-L1, blocking its binding to and activation of its receptor programmed death 1 (PD-1) expressed on activated T-cells, which may enhance the T-cell-mediated immune response to neoplasms and reverse T-cell inactivation. In addition, by binding to PD-L1, MPDL3280A also prevents binding of this ligand to B7.1 expressed on activated T cells, which further enhances the T-cell-mediated immune response. PD-L1 is overexpressed on many human cancer cell types and on various tumor-infiltrating immune cells. PD-L1 binding to PD-1 on T-cells suppresses the immune system and results in increased immune evasion. PD-1, a transmembrane protein, is a negative regulator of the immune system that limits the expansion and survival of CD8+ T cells. The Fc region of MPDL3280A is modified in such a way that it does not induce either antibody-dependent cytotoxicity (ADCC) or complement-dependent cytotoxicity (CDC).