Anti-LAG-3/PD-L1 Bispecific Antibody FS118

National Cancer Institute

Source

National Cancer Institute. Anti-LAG-3/PD-L1 Bispecific Antibody FS118. NCI Thesaurus. Code C150734.

A bispecific antibody directed against two immune checkpoint proteins, the inhibitory receptor lymphocyte activation gene 3 protein (LAG3; LAG-3) and the immunosuppressive ligand programmed cell death-1 ligand 1 (PD-L1; cluster of differentiation 274; CD274), with potential immune checkpoint inhibitory and antineoplastic activities. FS118 is generated by incorporating an anti-LAG-3 Fc-region with antigen binding (Fcab) into a PD-L1-specific antibody. Upon administration, FS118 simultaneously targets and binds to LAG3 expressed on T-cells in the tumor microenvironment (TME) and PD-L1 expressed on tumor cells. This prevents LAG3- and PD-L1-mediated signaling, reverses T-cell inactivation, activates the immune system and enhances cytotoxic T-lymphocyte (CTL)-mediated anti-tumor immune responses against PD-L1-expressing tumor cells, which together lead to a reduction in tumor growth. LAG3, a member of the immunoglobulin superfamily (IgSF) negatively regulates both proliferation and activation of T-cells. Its expression is associated with tumor-mediated immune suppression. PD-L1 is overexpressed by many human cancer cell types. PD-L1 binding to its receptor programmed death 1 (PD-1; PDCD1; CD279) on activated T-cells inhibits the expansion and survival of CD8-positive T-cells, suppresses the immune system and results in immune evasion.