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Anti-FLT3 Antibody-drug Conjugate AGS62P1

National Cancer Institute

Source

National Cancer Institute. Anti-FLT3 Antibody-drug Conjugate AGS62P1. NCI Thesaurus. Code C129937.

An antibody-drug conjugate (ADC) composed of a human monoclonal antibody directed against the extracellular domain of receptor-type tyrosine-protein kinase FLT3 (FLT-3; FMS-like tyrosine kinase 3; CD135; fetal-liver kinase 2; FLK2) and conjugated, via an oxime linker and the site-directed non-natural amino acid linker para-acetyl-phenylalanine (pAcF), to a microtubule-disrupting cytotoxic agent, with potential antineoplastic activity. Upon administration of ADC AGS62P1, the antibody moiety targets and binds to FLT3. Upon antibody/antigen binding and internalization, the microtubule-targeting agent binds to and inhibits tubulin polymerization, which results in G2/M phase arrest and tumor cell apoptosis. The site-specific conjugation of the cytotoxic agent to the antibody, through pAcF, improves the biophysical properties of AGS62P1, increases payload distribution and stability, and optimizes its efficacy. FLT3, a class III tyrosine kinase receptor, is overexpressed or mutated in most B lineage, acute lymphoblastic leukemias and acute myeloid leukemias.