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Anti-GCC Antibody-Drug Conjugate TAK-164

National Cancer Institute

Source

National Cancer Institute. *Anti-GCC Antibody-Drug Conjugate TAK-164*. NCI Thesaurus. Code C156707.

An antibody-drug conjugate (ADC) comprised of a full-length, fully-human immunoglobulin G1 (IgG1) monoclonal antibody (mAb) directed against the extracellular domain of guanylyl cyclase C (GCC; GUCY2C), conjugated using the peptide-linked indolino-benzodiazepine DNA alkylator DGN549 (IGN-P1), with potential antineoplastic activity. Upon intravenous administration of TAK-164, the antibody moiety selectively binds to GCC-expressing cells. Upon antibody/antigen binding and internalization, the cytotoxic DGN549 payload is released and binds to guanine residues on opposing strands of DNA. This induces DNA strand breaks, inhibits DNA replication, leads to G2/M cell cycle arrest, induces cell death, and inhibits the proliferation of GCC-expressing cells. GCC, a transmembrane receptor normally found on intestinal cells and dopamine neurons in the brain, is overexpressed on the surface of certain tumor cells.