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Anti-CD20-engineered Toxin Body MT-3724

National Cancer Institute

Source

National Cancer Institute. *Anti-CD20-engineered Toxin Body MT-3724*. NCI Thesaurus. Code C120546.

An engineered toxin body (ETB) composed of the single-chain variable fragment (ScFv) from an antibody targeting CD20 that is linked to a modified form of the ribosome-inactivating alpha subunit of Shiga-like toxin 1 (Shiga-like Toxin-1 A or SLT-1A), with antineoplastic activity. Upon administration, the ScFv moiety of anti-CD20-engineered toxin body MT-3724 targets and binds to the CD20 antigen expressed on tumor cells. Upon internalization, the SLT-1A moiety is released and acts as an N-glycosidase, which binds to and cleaves an adenine nucleobase in the 28S RNA component of the 60S subunit of ribosomes and prevents ribosome activity. This inhibits protein synthesis and eventually leads to apoptosis of CD20-expressing tumor cells. CD20, a B-cell specific transmembrane protein and tumor-associated antigen (TAA), is expressed during most stages of B-cell development and is often overexpressed in B-cell malignancies.