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# Anti-CD19/Anti-CD22 Bispecific Immunotoxin DT2219ARL

National Cancer Institute

## Source

National Cancer Institute. *Anti-CD19/Anti-CD22 Bispecific Immunotoxin DT2219ARL*. NCI Thesaurus. Code C82375.

An immunotoxin consisting of two scFv ligands recognizing human CD19 and CD22 linked to the first 389 amino acids of diphtheria toxin (DT), DT 390, with potential antineoplastic activity. The VH and VL regions of anti-CD22 (sFv) and anti-CD19 are reversed and linked by an aggregation stabilizing linker (ARL) consisting of a 20 amino acid segment of human muscle aldolase (hma) and an Xho1-compatible restriction site; the CDR3 region of the VH of anti-CD22 sFv is mutated to enhance its affinity. The anti-CD19 and anti CD-22 portions of the immunotoxin specifically bind to CD19 and CD22 receptors on tumor B cells. Upon internalization, DT catalyzes ADP ribosylation of elongation factor 2 (EF-2) which may result in the irreversible inhibition of protein synthesis and cell death in CD19- and CD22-expressing tumor cells. CD19 and CD22 are transmembrane proteins upregulated on malignant B cells.