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Anti-LAMP1 Antibody-drug Conjugate SAR428926

National Cancer Institute

Source

National Cancer Institute. *Anti-LAMP1 Antibody-drug Conjugate SAR428926*. NCI Thesaurus. Code C126275.

An antibody-drug conjugate (ADC) consisting of a monoclonal antibody against lysosome-associated membrane protein 1 (LAMP1) conjugated, via the disulfide-containing cleavable linker N-succinimidyl-4-(2-pyridyldithio)butyrate (SPDB), to the cytotoxic maytansinoid DM4, with potential antineoplastic activity. Upon administration of anti-LAMP1 ADC SAR428926, the anti-LAMP1 monoclonal antibody moiety targets and binds to the cell surface antigen LAMP1. After antibody-antigen interaction and internalization, the SPDB linker is selectively cleaved by proteases in the cytosol and the DM4 moiety is released. DM4 binds to tubulin and disrupts microtubule assembly/disassembly dynamics, thereby inhibiting both cell division and cell growth of LAMP1-expressing tumor cells. LAMP1, overexpressed on a variety of cancer cells, plays a key role in cell-cell adhesion and migration. The SPDB linker is resistant to cleavage in the bloodstream, which may increase stability and reduce toxicity.