

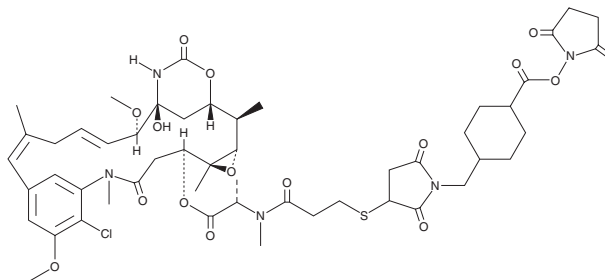
# PRODUCT INFORMATION



## DM1-SMCC

Item No. 23926

**CAS Registry No.:** 1228105-51-8  
**Formal Name:** N<sup>2'</sup>-deacetyl-N<sup>2'</sup>-[3-[[[1-[[[4-[[[(2,5-dioxo-1-pyrrolidinyl)oxy]carbonyl]cyclohexyl]methyl]-2,5-dioxo-3-pyrrolidinyl]thio]-1-oxopropyl]-maytansine  
**Synonym:** SMCC-DM1  
**MF:** C<sub>51</sub>H<sub>66</sub>ClN<sub>5</sub>O<sub>16</sub>S  
**FW:** 1,072.6  
**Purity:** ≥98%  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

DM1-SMCC is supplied as a crystalline solid. A stock solution may be made by dissolving the DM1-SMCC in the solvent of choice, which should be purged with an inert gas. DM1-SMCC is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of DM1-SMCC in these solvents is approximately 12 and 16 mg/ml, respectively.

DM1-SMCC is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, DM1-SMCC should first be dissolved in DMF and then diluted with the aqueous buffer of choice. DM1-SMCC has a solubility of approximately 0.16 mg/ml in a 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

DM1-SMCC is a reactive drug-linker molecule containing the maytansinoid DM1 (mertansine; Item No. 22483) and the crosslinker SMCC.<sup>1,2</sup> It inhibits the proliferation of HER2-positive HCC1954 and HER2-negative MDA-MB-468 breast cancer cells (IC<sub>50</sub>s = 17.2 and 49.9 nM, respectively).<sup>3</sup> DM1-SMCC has been linked to B38.1, a chimeric antibody for the tumor antigen epithelial cell adhesion molecule (EpCAM), as an antibody-drug conjugate (ADC) to target DM1 to tumor sites.<sup>4</sup> DM1-SMCC linked to B38.1 inhibits the proliferation of MCF-7 breast cancer cells (IC<sub>50</sub> = 11 nM).

### References

1. Luo, Q., Chung, H.H., Borths, C., *et al.* Structural characterization of a monoclonal antibody-maytansinoid immunoconjugate. *Anal. Chem.* **88**(1), 695-702 (2016).
2. Hamblett, K.J., Jacob, A.P., Gurgel, J.L., *et al.* SLC46A3 is required to transport catabolites of noncleavable antibody maytansine conjugates from the lysosome to the cytoplasm. *Cancer Res.* **75**(24), 5329-5340 (2015).
3. Shao, S., Tsai, M.-H., Lu, J., *et al.* Site-specific and hydrophilic ADCs through disulfide-bridged linker and branched PEG. *Bioorg. Med. Chem. Lett.* **28**(8), 1363-1370 (2018).
4. Oroudjev, E., Lopus, M., Wilson, L., *et al.* Maytansinoid-antibody conjugates induce mitotic arrest by suppressing microtubule dynamic instability. *Mol. Cancer Ther.* **9**(10), 2700-2713 (2010).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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