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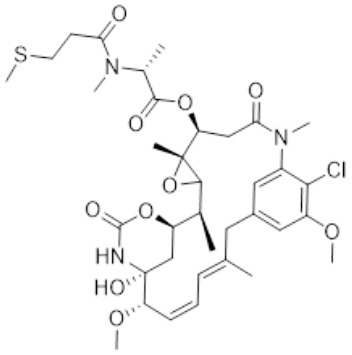
S-Methyl-DM1(S-Methyl Mertansine) Control Set for *in Vitro* Studies

Product Number: **CM11016.1**

Contents: 6 tubes, each with 100 µL of 10 µM S-Methyl DM1 solution in DMSO.



Product Description

CellMosaic's S-Methyl DM1 Control Set is a ready-to-use solution for *in vitro* research, formulated to simplify your workflow and minimize handling risks of this potent cytotoxic agent. S-methyl DM1 is the primary cellular or liver metabolite of ADC or other conjugates prepared with DM1. DM1 (mertansine) is a thiol-containing derivative of maytansine. It binds to tubulin and inhibits the assembly of microtubules. DM1 is used to prepare antibody-drug conjugates, such as trastuzumab emtansine (abbreviated as T-DM1). DM1 is not very stable in aqueous solution and can be oxidized or dimerized. CellMosaic's S-methyl DM1 is a high purity product that can serve as a control. This control set contains 6 tubes of a 10 µM S-methyl DM1 solution in DMSO, a concentration suitable for most biological research and cell-based assays.

The 10 µM concentration is intentionally set within a safe, research-appropriate range for analytical studies, both quantitative and qualitative. Each tube is intended for a single experiment, enabling straightforward dilution (see **Table 1** for suggested dilutions). The S-Methyl DM1 solution is pre-formulated and stable at room temperature, requiring no preparation before use or dilution.

Drug Information

- **Name**: S-Methyl DM1 (S-Methyl Mertansine)
- **CAS Number**: 912569-84-7
- **Molecular Weight**: 752.32 Da
- **Chemical Formula**: $C_{36}H_{50}ClN_3O_{10}S$
- **Mechanism of Action**: Inhibits cell division by blocking the polymerization of tublin
- **Reported Activities:** Anticancer, antimitotic

Key Features

- Pre-formulated **10 µM stock in DMSO** —no preparation needed.
- Convenient format: 6 single-use tubes for consistent results.
- Ideal for:
  - Drug screening
  - Cell-viability, proliferation and cytotoxicity assays
  - Other qualitative and quantitative studies
- Sufficient volume for replicates.

Storage & Stability

- Once diluted: stable at room temperature for short-term use.
- Long-term storage: Store at -20 °C or below.

Procedure

1. Remove one tube from the set and allow it to warm to ambient temperature.
2. Briefly centrifuge to ensure all liquid is at the bottom of the tube.
3. Use directly or dilute to the desired concentration.

Serial Dilution Guidelines

To prepare concentrations from 1 µM to 10 pM:

- Use clean and labeled vials to avoid cross-contamination.
- Dilute the S-Methyl DM1 stock using an appropriate solvent or buffer (e.g., PBS buffer or water)
- Approximate total diluent volume needed: 6 mL.

Table 1: An Example of Serial Dilution Plan for S-Methyl DM1 Control Set

Step	S-Methyl DM1 Concentration	Volume to Transfer (µL)	Diluent Volume (µL)	Total Volume (µL)	Sample Volume for Assay (µL)
Stock	10 µM	–	–	100	–
1	1 µM	100	900	1000	600
2	500 nM	400	400	800	600
3	100 nM	200	800	1000	600
4	10 nM	100	900	1000	600
5	5 nM	400	400	800	600
6	1 nM	200	800	1000	600
7	100 pM	100	900	1000	600
8	50 pM	400	400	800	600
9	10 pM	200	800	1000	800

Note: Handle S-Methyl DM1-containing solutions with appropriate safety precautions, including PPE and fume hood use. Dispose of waste according to institutional hazardous waste guidelines.

Important Notes & Contact Information

READ BEFORE USING ANY RESOURCES PROVIDED HEREIN

The information provided in this document and the methods included in this package are for information purposes only. CellMosaic provides no warranty of performance or suitability for the purpose described herein.

Sample data are provided for illustrative and example purposes only and represent a small dataset used to verify kit performance in the CellMosaic laboratory. Information about the chemicals and reagents used in the kit are provided as necessary.

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