# Product Datasheet

## Technical Data

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| **Formula** | $C_{29}H_{19}NO_{11}$ | | | | | |
| **Molecular Weight** | 557.46 | **CAS No.** | 150347-59-4 | | | |
| **Solubility (25°C)*** | In vitro | DMSO | 100 mg/mL (179.38 mM) | | | |
| | | Water | Insoluble | | | |
| | | Ethanol | Insoluble | | | |
| | *In vivo* (Add solvents to the product individually and in order) | Oral Administration | Homogeneous suspension | CMC-NA | ≥5mg/ml | Taking the 1 mL working solution as an example, add 5 mg of this product to 1 ml of CMC-Na solution, mix evenly to obtain a homogeneous suspension with a final concentration of 5 mg/ml. |
| | | Injection | Clear solution | 5%DMSO [1] → 40%PEG300 [2] → 5%Tween80 [3] → 50%ddH2O<br>Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing. | 2.500mg/ml (4.48mM) | Taking the 1 mL working solution as an example, add 50 μL of 50 mg/ml clarified DMSO stock solution to 400 μL of PEG300, mix evenly to clarify it; add 50 μL of Tween80 to the above system, mix evenly to clarify; then continue to add 500 μL of ddH2O to adjust the volume to 1 mL.<br>The mixed solution should be used immediately for optimal results. |
| | | | Clear solution | 5% DMSO [1] → 95% Corn oil<br>Validated by Capsid Bio labs. Should you need adjustments to this formulation, contact our sales team for custom testing. | 0.500mg/ml (0.90mM) | Taking the 1 mL working solution as an example, add 50 μL of 10 mg/ml clear DMSO stock solution to 950 μL of corn oil and mix evenly.<br>The mixed solution should be used immediately for optimal results. |

* <1 mg/ml means slightly soluble or insoluble.
* Please note that Capsid Bio tests the solubility of all compounds in-house, and the actual solubility may differ slightly from published values. This is normal and is due to slight batch-to-batch variations.
* Room temperature shipping (Stability testing shows this product can be shipped at 2-8°C for storage purposes.)

## Preparing Stock Solutions

| Concentration \ Volume / Mass | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 1.7939 mL | 8.9693 mL | 17.9385 mL |
| 5 mM | 0.3588 mL | 1.7939 mL | 3.5877 mL |
| 10 mM | 0.1794 mL | 0.8969 mL | 1.7939 mL |
| 50 mM | 0.0359 mL | 0.1794 mL | 0.3588 mL |

## Biological Activity

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| **Description** | Carboxyfluorescein succinimidyl ester (CFSE, 5(6)-Carboxyfluorescein diacetate succinimidyl ester, CFDA-SE, 5(6)-CFDA N-succinmidyl ester) is a fluorescent cell staining dye. CFSE is frequently used in cell proliferation assay and motility assays. CFSE is cell permeable and covalently couples, via its succinimidyl group, to intracellular molecules, notably, to intracellular lysine residues and other amine sources. |
| **In vitro** | Preparation of CFDA-SE working solution<br>1.1 Preparation of the stock solution<br>Dissolve 1 mg of CFDA-SE in 0.1794 mL of DMSO to obtain 10 mM of CFSE.<br>Note: It is recommended to store the stock solution at -20 ℃ or -80 ℃ away from light and avoid repetitive freeze-thaw cycles.<br>1.2 Preparation of this compound working solution<br>Dilute the stock solution in serum-free cell culture medium or PBS to obtain 5-10 μM of this chemical working solution.<br>Note: Please adjust the concentration of this compound working solution according to the actual situation.<br>Cell staining<br>2.1 For suspension cells: Centrifuge at 1000 g at 4℃ for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time.<br>For adherent cells: Discard the cell culture medium, and add trypsin to dissociate cells to make a single-cell suspension. Centrifuge at 1000 g at 4℃ for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time.<br>2.2 Add 1 mL of this compound working solution, and then incubate at room temperature for 30 minutes.<br>2.3 Centrifuge at 400 g at 4℃ for 3-4 minutes and then discard the supernatant.<br>2.4 Wash twice with PBS, 5 minutes each time.<br>2.5 Resuspend cells with serum-free cell culture medium or PBS, and then detect by fluorescence microscope or flow cytometer. |
| **In vivo** | In vivo labeling of cells with CFSE is feasible with virtually no toxic effect on the labeled or adjacent cells. It has advantages in relatively long-term migration studies as demonstrated by the recovery of T-cells in the peripheral lymphoid organs[2]. |

## Protocol (from reference)

**Cell Assay:**[1]

- **Cell lines**
  human erythroleukaemic cell line K562, mouse lymphoma cell line YAC-1, human mammary cancer cell line MCF-7 and human melanoma cell line A375
- **Concentrations**
  2 μM, 3 μM, 4 μM, 5 μM, 10 μM and 20 μM
- **Incubation Time**
  5, 6, 7, 8, 10 and 15 min
- **Method**
  The 5 mM CFDA-SE stock in DMSO is diluted to different concentrations(2 μM, 3 μM, 4 μM, 5 μM, 10 μM and 20 μM) in PBS with a total volume of 1 ml. After each cell line is harvested and washed three times with PBS, $1\times10^9$ cells are added to equal volume of this compound with different concentrations and incubated at 37°C for 5, 6, 7, 8, 10 and 15

min with agitation. The labeling reaction is stopped for 1 min by adding an equal volume of heat inactivated fetal bovine serum. The CFDA-SE labeled cells are washed twice with PBS and recounted, and the cell concentration is adjusted to 6×104cells/ml in IMDM containing 10% FCS.

**Animal Study:**[2]

- **Animal Models**
  C57Bl/6 mice
- **Dosages**
  10 μM
- **Administration**
  injected into thymic lobe

## References


https://pubmed.ncbi.nlm.nih.gov/15944752/ https://pubmed.ncbi.nlm.nih.gov/9570923/


### RETURN POLICY

Capsid Bio's Unconditional Return Policy ensures a smooth online shopping experience for our customers. If you are in any way unsatisfied with your purchase, you may return any item(s) within 7 days of receiving it. In the event of product quality issues, either protocol related or product related problems, you may return any item(s) within 365 days from the original purchase date. Please follow the instructions below when returning products.

### SHIPPING & STORAGE

Capsid Bio products are transported at room temperature. If you receive the product at room temperature, please rest assured, the Capsid Bio Quality Inspection Department has conducted experiments to verify that the normal temperature placement of one month will not affect the biological activity of powder products. After collecting, please store the product according to the requirements described in the datasheet. Most Capsid Bio products are stable under the recommended conditions.

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**


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