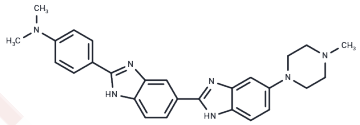
# Data Sheet (Cat.No.T19011)

TargetMol

## Hoechst 34580

### Chemical Properties



CAS No. : 23555-00-2

Formula: C27H29N7

Molecular Weight: 451.57

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

### Biological Description

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| Description | Hoechst 34580 (HOE 34580), a cell-permeable fluorescent dye, is used for staining DNA and nuclei. |
| Targets(IC50) | Beta Amyloid |
| In vitro | Hoechst 34580 is a good candidate for treating Alzheimer's disease by inhibiting Aβ formation. 50 μM Aβ42 solutions co-incubated with 100, 25, 12.5, 3.125, 0.78, and 0.1, 0.01 μM Hoechst 34580 at 37 °C for 70 h. Hoechst 34580 can inhibit the aggregation of Aβ42 in a dose-dependent manner. The IC50 is obtained by measuring the concentration of Hoechst 34580 while maintaining the Aβ42 concentration which gave 0.86±0.05 μM for Hoechst 34580. |
| Cell Research | Instructions:<br>I. Solution preparation<br>1. Preparation of stock solution: Prepare 1 mg/mL Hoechst 34580 stock solution with DMSO.<br>Note: It is recommended to store Hoechst stock solution at -4℃ or -20℃ in the dark after aliquoting.<br>2. Preparation of working solution: Dilute the stock solution with pure DMEM or PBS before use, and the final concentration is 10 μg/mL Hoechst working solution.<br>Note: Please adjust the concentration of Hoechst working solution according to actual conditions and prepare it before use.<br>II. Cell staining (suspended cells)<br>1. Collect cells by centrifugation and wash twice with PBS for 5 minutes each. The cell density is 1×10^6/mL<br>2. Add 1 mL Hoechst working solution and incubate at room temperature for 3-10 minutes.<br>3. Centrifuge at 400 g for 3-4 minutes and discard the supernatant.<br>4. Add PBS to wash cells twice for 5 minutes each.<br>5. Resuspend the cells with 1 mL serum-free medium or PBS, and observe using a fluorescence microscope or flow cytometer.<br>III. Cell staining (adherent cells)<br>1. Culture the adherent cells on a sterile coverslip.<br>2. Remove the coverslip from the culture medium and remove the excess culture medium. |

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| Cell Research | 3. Add 100 μL of dye working solution, gently shake to completely cover the cells, and incubate for 3-10 minutes.<br>4. Aspirate the dye working solution, wash with culture medium 2-3 times, 5 minutes each time, and observe using a fluorescence microscope or flow cytometer.<br>Precautions<br>1. Please adjust the concentration of Hoechst working solution according to your actual situation.<br>2. This product is limited to scientific research by professionals and shall not be used for clinical diagnosis or treatment, nor for food or medicine.<br>3. For your safety and health, please wear a lab coat and disposable gloves when operating.<br><br>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands. |

## Solubility Information

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| Solubility | DMSO: 47 mg/mL (104.08 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 2.2145 mL | 11.0725 mL | 22.145 mL |
| 5 mM | 0.4429 mL | 2.2145 mL | 4.429 mL |
| 10 mM | 0.2214 mL | 1.1072 mL | 2.2145 mL |
| 50 mM | 0.0443 mL | 0.2214 mL | 0.4429 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Thai NQ, et al. Discovery of DNA dyes Hoechst 34580 and 33342 as good candidates for inhibiting amyloid beta formation: in silico and in vitro study. J Comput Aided Mol Des. 2016 Aug;30(8):639-50.