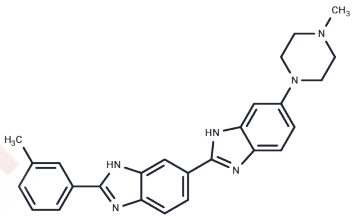
Data Sheet (Cat.No.T19004)

TargetMol

Hoechst 33258 analog 2

Chemical Properties



CAS No. : 23491-54-5

Formula: C26H26N6

Molecular Weight: 422.52

Appearance: no data available

Storage: keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Hoechst 33258 analog 2 is part of a family of blue fluorescent dyes used to stain DNA.
Targets(IC50)	Others
In vitro	The dyes Hoechst 33258 and Hoechst 33342 are the ones most commonly used and they have similar excitation/emission spectra. Both dyes are excited by ultraviolet light at around 350 nm, and both emit blue/cyan fluorescent light around an emission maximum at 461 nm. Unbound dye has its maximum fluorescence emission in the 510-540 nm range. Hoechst dyes are soluble in water and in organic solvents such as dimethylformamide or dimethyl sulfoxide. Concentrations can be achieved of up to 10 mg/mL. Aqueous solutions are stable at 2-6 °C for at least six months when protected from light. For long-term storage, the solutions are instead frozen at ≤-20 °C. Although the dyes can bind to all nucleic acids, AT-rich double-stranded DNA strands enhance fluorescence considerably. Hoechst dyes are cell-permeable and can bind to DNA in live or fixed cells.
Cell Research	I. Solution preparation 1. Stock solution preparation: Dissolve Hoechst 33258 analog 2 in DMSO or water to prepare a storage solution with a concentration of 1-10 mM. 2. Working solution preparation: Dilute to the appropriate concentration with PBS/DMEM/H2O before use. The common working concentration is 1-10 μM, but the specific concentration should be optimized according to experimental requirements. II. Cell staining 1. Cell culture: Culture cells in appropriate culture dishes to ensure that the cells reach an appropriate density (e.g., 70%-80% confluence). 2. Staining: Add the working concentration of Hoechst 33258 analog 2 to the cell culture medium. The common working concentration is 1-10 μM, but the specific concentration can be adjusted according to experimental needs. 3. Incubate cells at room temperature or 37°C for 10-30 minutes. The specific time can be adjusted according to experimental requirements. 4. Wash cells: After staining, wash cells with PBS (phosphate buffered saline) to remove unbound dye and prevent nonspecific staining. 5. Fluorescence detection: Hoechst 33258 analog 2 emits blue fluorescence under UV light (360 nm) excitation, with an emission wavelength of 460 nm. The dye binds

specifically to DNA, and its fluorescence can be detected by a fluorescence microscope or flow cytometer equipped with appropriate filters. Notes: 1. Photosensitivity: Hoechst dye is light-sensitive, and long-term exposure to strong light may affect its fluorescence intensity. Therefore, it is recommended to handle in a low-light environment and avoid unnecessary light exposure during storage and operation. 3. Cytotoxicity: At high concentrations, Hoechst dye may be cytotoxic to cells. Therefore, the concentration needs to be optimized to reduce possible cell damage.

Solubility Information

Solubility	H2O: < 0.1 mg/mL (insoluble) DMSO: 60 mg/mL (142.01 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3668 mL	11.8338 mL	23.6675 mL
5 mM	0.4734 mL	2.3668 mL	4.7335 mL
10 mM	0.2367 mL	1.1834 mL	2.3668 mL
50 mM	0.0473 mL	0.2367 mL	0.4734 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.

Reference

Zhou Q,et al. Saikosaponin A Inhibits Growth of Human Bladder Carcinoma T24 and 5637 Cells Both in Vitro and in Vivo. Biol Pharm Bull. 2022 Jul 1;45(7):863-871.

Zhou W, Zeng X, Wu X. Effect of Oleanolic Acid on Apoptosis and Autophagy of SMMC-7721 Hepatoma Cells. Med Sci Monit. 2020 May 19;26:e921606.

Casati L, et al. Beneficial effects of δ-tocotrienol against oxidative stress in osteoblastic cells: studies on the mechanisms of action. Eur J Nutr. 2020 Aug;59(5):1975-1987.