

## Hoechst 33342 NHS ester

Catalog Number: 17670

Unit Size: 1 mg

### Product Details

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Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

### Chemical Properties

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Appearance	Solid light yellow
Molecular Weight	607.67
Soluble In	DMSO
Chemical Structure	

### Spectral Properties

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Excitation Wavelength	N/A
Emission Wavelength	N/A

### Applications

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Hoechst 33342 NHS ester is an excellent building block for developing site-specific nucleic acid probes. It can be readily conjugated to amino-containing biomolecules (such as antibodies, peptides and amino-modified oligos). Hoechst 33342 is a DNA-specific dye that binds to the minor groove of double-stranded DNA. It emits blue fluorescence when bound to DNA. Its excitation maximum is around 350 nm, and the emission maximum is approximately 460 nm. Its ability to readily penetrate live cell membranes makes it suitable for staining live cells. This property allows researchers to monitor nuclear morphology and DNA content in living cells. Hoechst 33342 is commonly used in fluorescence microscopy to visualize the nucleus of cells. It selectively stains the DNA in the cell nucleus, and is often used in combination with other fluorochromes to study cell structure and dynamics. Hoechst 33342 is used for cell cycle analysis in flow cytometry. By staining DNA, it allows researchers to distinguish between different phases of the cell cycle, such as G1, S, and G2/M. In addition, Hoechst 33342 has also been used in the identification and isolation of stem cells based on their ability to efflux the dye. This property is exploited in a technique called side population analysis, commonly used in stem cell research.