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TOCRIS

Print Date: Mar 19th 2025

Certificate of Analysis

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Product Name: **Hoechst 33342** **Catalog No.: 5117** **Batch No.: 5**

CAS Number: 875756-97-1 EC Number: 245-690-6

IUPAC Name: 2'-(4-Ethoxyphenyl)-5-(4-methyl-1-piperazinyl)-2,5'-bi-1*H*-benzimidazole trihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{27}H_{28}N_6O.3HCl.4H_2O$

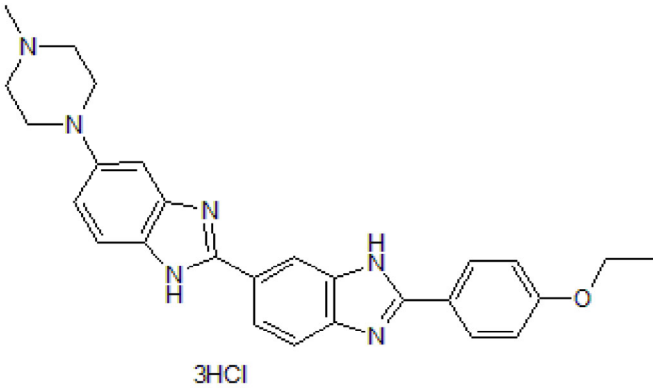
Batch Molecular Weight: 633.99

Physical Appearance: Yellow/green solid

Solubility: water to 50 mM
DMSO to 50 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.9% purity at 352 nm

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	51.15	6.2	13.26	16.78
Found	50.32	6.18	12.93	15.86

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Description:

Key information: Hoechst 33342 is a blue-fluorescent dye for DNA staining. Cell permeable. Suitable for fixed and live-cell staining. Commonly used as a counterstain in fluorescence microscopy. Used for: nuclear counterstain, DNA visualization, cell cycle studies, apoptosis analysis. Application: flow cytometry, confocal microscopy. Properties and Photophysical Data: Hoechst 33342 binds to the AT-rich regions of the minor grove in DNA which renders it specific for nuclear chromatin. Excitation and emission maxima (λ) are 350 nm and 461 nm, respectively.

Physical and Chemical Properties:

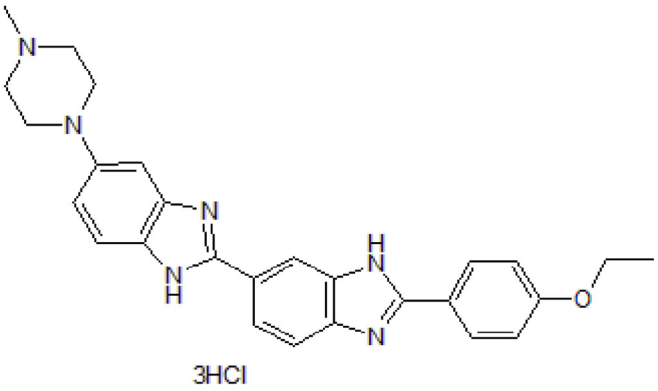
Batch Molecular Formula: $C_{27}H_{28}N_6O.3HCl.4H_2O$

Batch Molecular Weight: 633.99

Physical Appearance: Yellow/green solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

water to 50 mM
DMSO to 50 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Portugal and Waring (1988) Assignment of DNA binding sites for 4',6-diamidine-2-phenylindole and bisbenzimide (Hoechst 33258). A comparative footprinting study. Biochim.Biophys.Acta. ***949*** 158. PMID: 2449244.

Loken (1980) Simultaneous quantitation of Hoechst 33342 and immunofluorescence on viable cells using a fluorescence activated cell sorter. Cytometry ***1*** 136. PMID: 7028425.

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