bio-techne
TOCRIS

Print Date: Jun 17th 2024

# Certificate of Analysis

www.tocris.com

**Product Name:** **Hoechst 33342** **Catalog No.: 5117** **Batch No.: 4**

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:** $C_{27}H_{28}N_6O.3HCl.3.75H_2O$

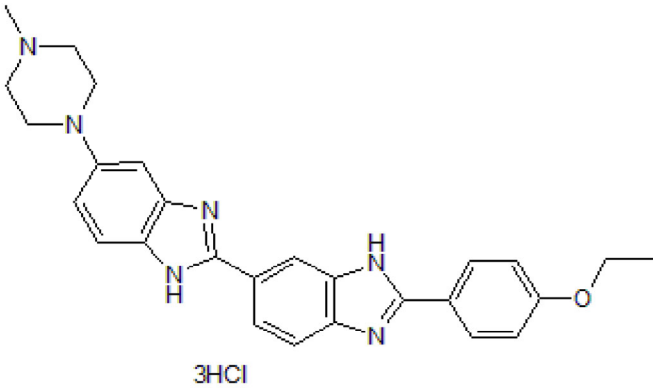
**Batch Molecular Weight:** 629.49

**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 99.3% purity at 352 nm

**$^1$H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

| | Carbon | Hydrogen | Nitrogen | Chlorine |
|---|---|---|---|---|
| Theoretical | 51.52 | 6.16 | 13.35 | 16.9 |
| Found | 50.74 | 6.2 | 13.04 | 17.9 |



**bio-techne.com**
info@bio-techne.com
techsupport@bio-techne.com

**North America**
Tel: (800) 343 7475

**China**
info.cn@bio-techne.com
Tel: +86 (21) 52380373

**Europe Middle East Africa**
Tel: +44 (0)1235 529449

**Rest of World**
www.tocris.com/distributors
Tel:+1 612 379 2956

**Product Name:** **Hoechst 33342** **Catalog No.: 5117** **4**

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

**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:**

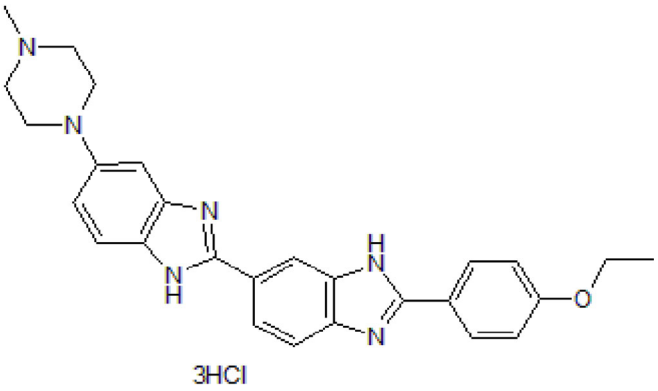
Batch Molecular Formula: $C_{27}H_{28}N_6O.3HCl.3.75H_2O$

Batch Molecular Weight: 629.49

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.



**bio-techne.com**
info@bio-techne.com
techsupport@bio-techne.com

**North America**
Tel: (800) 343 7475

**China**
info.cn@bio-techne.com
Tel: +86 (21) 52380373

**Europe Middle East Africa**
Tel: +44 (0)1235 529449

**Rest of World**
www.tocris.com/distributors
Tel:+1 612 379 2956