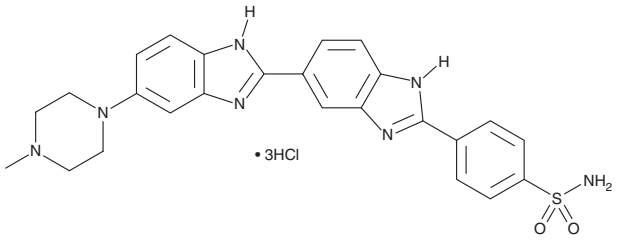
PRODUCT INFORMATION

Nuclear Yellow

Item No. 25178

CAS Registry No.: 74681-68-8
Formal Name: 4-[5-(4-methyl-1-piperazinyl)[2,5'-bi-1H-benzimidazol]-2'-yl]-benzenesulfonamide, trihydrochloride
Synonym: Hoechst S769121
MF: $C_{25}H_{25}N_7O_2S \bullet 3HCl$
FW: 597.0
Ex./Em. Max: 355/495 nm
Supplied as: A powder
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Nuclear yellow is a DNA-selective dye that is used to label DNA content in live and fixed cells. Upon binding to DNA, nuclear yellow fluoresces, and this fluorescence can be measured using fluorescence microscopy, microplate fluorometry, or flow cytometry. Nuclear yellow has commonly been used in combination with retrograde tracers for two-color neuronal mapping.[1] It can also be used to photoconvert diaminobenzidine (DAB) into an electron-dense reaction product for light and electron microscopy applications.[2] Nuclear yellow displays excitation/emission maxima of 355/495 nm, respectively.

Assay Protocol

1. Add nuclear yellow to live or fixed suspension or adherent cells to a final concentration of 0.5 to 5 µM at pH 7.4, and stain the cells for 15 to 60 minutes.
2. Observe cells using fluorescence technique of choice.

Note 1: Aliquot and store unused nuclear yellow at -20°C. Nuclear yellow is light sensitive. Light exposure and repeated freeze-thaw cycles should be avoided.

Note 2: The optimal working concentration is application specific. Staining conditions may be modified according to growth medium, cell density, cellular heterogeneity, and/or other factors. The presence of residual detergent on glassware may also affect staining.

References

1. Pollin, B., Laplante, S., Cesaro, P., *et al*. Simultaneous visualization of nuclear yellow and iron-dextran complex for demonstration of branched neurons by retrograde axonal transport. *J. Neurosci. Methods* **8(3)**, 205-209 (1983).
2. Lübke, J. Photoconversion of diaminobenzidine with different fluorescent neuronal markers into a light and electron microscopic dense reaction product. *Microsc. Res. Tech.* **24(1)**, 2-14 (1993).

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