**DAPI**

1 mg

**Description:** DAPI is supplied as a lyophilized powder in 1 mg units. It can be used to examine cellular DNA in fluorescent microscopy and cytometry applications.

**Background:** 4', 6-diamidino-2-phenylindole, dihydrochloride (DAPI) is a blue fluorescent DNA dye that targets double-stranded AT clusters in the DNA minor groove (1). One molecule of dye binds to each 3 base pairs of dsDNA and yields an approximate 20-fold fluorescent enhancement (2). The level of DAPI-DNA fluorescence is proportional to DNA content (3).

**Fluorescent Properties:**
- Free dye excitation maximum = 340 nm
- Free dye emission maximum = 488 nm
- DNA complex excitation maximum = 364 nm
- DNA complex emission maximum = 454 nm

**Molecular Formula:** C₁₆H₁₅N₅₂(HCl)

**Background References:**

**Applications**
- IF-F, IF-IC, IF-P, F

**Applications Cross-Reactivity**
- All

**For Research Use Only. Not For Use In Diagnostic Procedures.**

**Storage:** Store lyophilized or in solution at 4°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 2-3 weeks to prevent loss of potency. For long-term storage, aliquot and store at -20°C to avoid multiple freeze/thaw cycles.

**Directions for Use:** DAPI is supplied as a lyophilized powder. For a 20 mg/ml stock, reconstitute the 1 mg in 50 µl deionized water or dimethylformamide. Please follow CST’s recommended IF and Flow protocols. For both applications, following secondary detection:

**Immunofluorescence:**
- Counterstain with DAPI as the final step in your staining procedure. Rinse samples twice in PBS for five min each. Dilute DAPI stock solution to a concentration between 1 - 0.1 µg/ml in PBS and incubate for 5 min at room temperature in the dark. Rinse samples once in PBS and then prepare for imaging. Examine immediately using appropriate excitation wavelength.
- Alternatively, dilute DAPI stock solution to a concentration between 1 - 0.1 µg/ml in mounting media, apply to cells, and prepare for imaging. Examine immediately using appropriate excitation wavelength.

**Flow Cytometry:**
- Rinse samples once in Incubation Buffer. Dilute DAPI stock solution to a concentration between 1.60-0.0125 µg/ml in PBS and incubate for 15 min at room temperature in the dark before analyzing cells on flow cytometer.

**Applications Key:**
- W—Western
- IP—Immunoprecipitation
- IHC—Immunohistochemistry
- ChIP—Chromatin Immunoprecipitation
- IF—Immunofluorescence
- F—Flow cytometry
- E-P—ELISA-Peptide

**Species Cross-Reactivity Key:**
- H—human
- M—mouse
- R—rat
- Hm—hamster
- Mk—monkey
- Mi—mink
- C—chicken
- Dm—D. melanogaster
- X—Xenopus
- Z—zebrafish
- B—bovine
- Dg—dog
- Pg—pig
- Sc—S. cerevisiae
- Ce—C. elegans
- Hn—horse
- All—all species expected

**Flow cytometric analysis of Jurkat cells using Ki-67 (D3B5) Rabbit mAb #12075 and DAPI (DNA content).**

**Immunofluorescent analysis of HUVE cells using VE-Cadherin (D87F2) XP® Rabbit mAb #2500 (green) and DAPI (blue). Actin filaments were labeled with DyLight™ 554 Phalloidin #13054 (red).**

**Immunofluorescent analysis of HeLa cells using COX IV (3E11) Rabbit mAb #4850 (green), β-Catenin (L54E2) Mouse mAb (IF Preferred) #2677 (red) and DAPI (blue).**

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