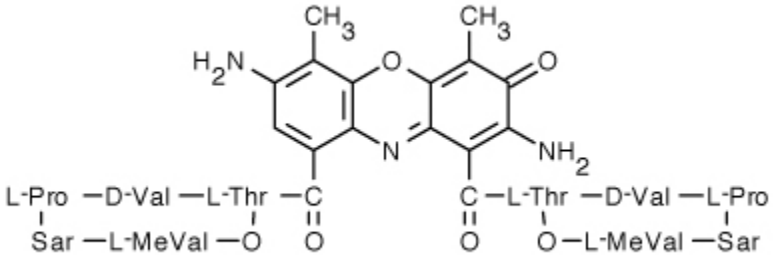
7-AAD (7-Aminoactinomycin D)

Cat. No. CTG-AP0012 Store the kit at -15 to -25°C

Description

7-aminoactinomycin D (7-AAD) is a fluorescent intercalator that undergoes a spectral shift upon association with DNA. 7-AAD/DNA complexes can be excited by the 488 nm laser and has an emission maxima of 647 nm, making this nucleic acid stain useful for multicolor fluorescence microscopy and flow cytometry. 7-AAD appears to be generally excluded from live cells, but can be used with cells that have been fixed and permeabilized. 7-AAD has been used for cell cycle analysis by flow cytometry. 7-AAD also binds selectively to GC regions of DNA yielding a distinct banding pattern in polytene chromosomes and chromatin for use in chromosome banding studies. Although the emission intensity of 7-AAD is lower than that of PI, the longer wavelength emission may make it more useful for multiplexing assays in combination with other 488 nm-excited fluorochromes such as FITC and PE.



Molecular formula: C62H87N13O16
Molecular weight: 1270.45
CAS name/number: Actinomycin D, 7-amino- 7240-37-1

Kit Components

1mg or 2ml (0.5 mg/ml)

Kit storage/stability

The DMSO stock solution is good for 6 months if stored at -20°C.

Usage

Celltechgen provides high-quality reagents and materials for research use only. 7-AAD is a potential carcinogen. It is recommended that the user wear gloves, protective clothing, and eye/face protection in order to avoid contact with skin and eyes. For proper handling of potentially hazardous chemicals, please request the Safety Data Sheet (SDS) provided for the product.

Experimental Protocol

7-AAD staining is normally performed after all other stainings. It stains dead cells only. The following procedure can be adapted for most cell types. Growth medium, cell density, the presence of other cell types and other factors may influence staining. Residual detergent on glassware may also affect real or apparent staining of many organisms, causing brightly stained material to appear in solutions with or without cells present.

1). Make 1-10 mM DMSO stock solution.

2). Use the fixation protocol appropriate for your sample.

3). Pellet cells by centrifugation and resuspend the cells in buffered salt solutions or media, with optimal dye staining at pH 7.4. Adherent cells in culture may be stained in situ on cover slips or in the cell culture wells.

4). Add 7-AAD stain using the concentrations from 0.5 to 5 µM and incubate it for 15 to 60 minutes as a guide. In initial experiments, it may be best to try several dye concentrations over the entire suggested range to determine the concentration that yields optimal staining.

5). Measure the fluorescence intensity at Ex/Em = 545/650nm (use FL3 for flow cytometric analysis)