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7-AAD



7-AAD (7-aminoactinomycin D) is a membrane-impermeant fluorescent DNA binding dye that is useful for live/dead discrimination and cell cycle profiling by flow cytometry.

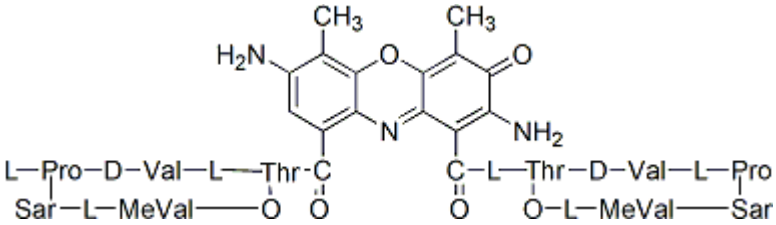
Product attributes

Probe cellular localization	Nucleus
Assay type/options	DNA content/cell cycle profiling (flow cytometry), Live/dead discrimination, No-wash staining
Detection method/readout	Flow cytometry
Cell permeability	Membrane impermeant
Apoptosis/viability marker	Dead cell stain
Colors	Far-red
Excitation/Emission	546/647 nm (with DNA)

Product Description

7-AAD is a fluorescent DNA binding dye that is membrane impermeant and therefore generally excluded from live cells and early apoptotic cells, but stains necrotic and late apoptotic cells with compromised membrane integrity.

- Selective detection of dead cells by flow cytometry in the PE-Cy®5/PerCP channel
- Perform cell cycle profiling by flow cytometry in fixed/permeabilized cells
- $\lambda_{Ex}/\lambda_{Em}$ (with DNA) = 546/647 nm (7-AAD can also be excited by the 488 or 532 laser lines)
- Orange red solid soluble in DMF or DMSO
- Store at -20°C and protect from light, especially in solution
- $C_{62}H_{87}N_{13}O_{16}$
- MW: 1270.45



7-AAD bound to DNA has a large Stokes shift with excitation/emission at 546/647 nm. The dye can be excited with either the 488 nm or 532 nm laser lines, and detected in the PE-Cy®5/PerCP flow cytometry channel. 7-AAD is widely used for live/dead cell discrimination. It also can be used in fixed and permeabilized cells for cell cycle profiling by DNA content analysis using flow cytometry. 7-AAD intercalates selectively at GC-rich regions of DNA, making it dye useful for chromosome banding studies. We offer 7-AAD as a solid powder (catalog no. 40037) or as a solution in 1 mg/mL DMSO:Water (1:1) (catalog no. 40084).

7-AAD products

Product	Catalog Number	Unit Size	Format
7-AAD	40037	1 mg	Orange/red solid
7-AAD Solution, 1 mg/mL	40084	1 mL	Red solution in DMSO:Water (1:1)

We also offer the CF®488A Annexin V and 7-AAD Apoptosis kit, containing CF®488A Annexin V for staining apoptotic cells green, and 7-AAD for staining necrotic cells with far-red fluorescence. Also see NucSpot® Far-Red, an improved alternative to 7-AAD that has red-shifted fluorescence emission, for less bleed-through fluorescence in the PE-Texas Red® channel. For fixable dead cell stains, see our Live-or-Dye™ Fixable Viability Staining Kits.

Cy Dye is a registered trademark of Cytiva; Texas Red is a registered trademark of Thermo Fisher Scientific.

References

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