

## Glowing products for science

## 7-AAD

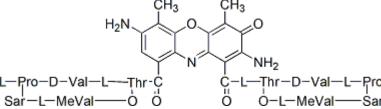
7-AAD (7-aminoactinomycin D) is a membrane-impermeant fluorescent DNA binding dye that is useful for live/dead discrimination and cell cycle profiling by flow cytometry.



# **Product 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
- C62H87N13O16
- 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-Dve™ Fixable Viability Staining Kits.

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

#### References

- 1. Environ Mol Mutagen (2013) 54(8), 682-9. doi: 10.1002/em.21800
- 2. Mol Cell Biol (2014) 34(24), 4485-4499. doi: 10.1128/MCB.00671-14
- 3. Mutat Res Genet Toxicol Environ Mutagen (2014) 770, 1-5. doi: 10.1016/j.mrgentox.2014.05.001
- 4. Science (2017) 356(6339) eaai9264. DOI: 10.1126/science.aai9264

Product link: https://biotium.com/product/7-aad-7-aminoactinomycin-d/

- 5. Int J Rad Biol (2019) 95,9, 1226-1235. DOI: 10.1080/09553002.2019.1625490
- 6. OncoTargets Therapy (2019) 12, 5227-5239. https://doi.org/10.2147/OTT.S190460
- 7. Antioxidants (2020) 9(9), 873. doi:10.3390/antiox9090873
- 8. Antioxidants (2020) 9(9), 876. doi:10.3390/antiox9090876

This datasheet was generated on November 21, 2025 at 03:46:50 PM. Visit product page to check for updated information before use.

# Product attributes

Call us: 800-304-5357

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)