7-Aminoactinomycin D

Product Number  A 9400
Storage Temperature  2-8 °C

Product Description
Molecular Formula: C_{62}H_{87}N_{13}O_{16}
Molecular Weight: 1,270
CAS Number: 7240-37-1
Synonym: 7-AAD

Fluorescent Properties

Free form:
Excitation: 503 nm (0.01 M phosphate buffer, pH 7.0 containing 0.1 mM EDTA)¹; 550 nm²
Emission: 675 nm (0.01 M phosphate buffer, pH 7.0 containing 0.1 mM EDTA)¹; 672 nm²

DNA Complex:
Excitation: 543 nm¹; 555 nm²
Emission: 655 nm¹; 665 nm²

7-AAD is used in flow cytometry analysis of viable cells. Cell surface markers were stained by FITC and phycoerythrin-conjugated antibody. After surface staining, cells were further stained with 10 µg/ml of 7-AAD in PBS on ice for 30 minutes. After washing with PBS twice, the cells were fixed in 1% paraformaldehyde supplemented with 50 µg/ml actinomycin D. Non-apoptotic cells are 7-AAD negative.³

This material like its parent molecule, Actinomycin D, is a DNA-intercalator with growth-inhibitory properties.⁴,⁵

This product has been tested for its labeling properties on transformed thymocytes that are scanned by FACS. It was possible to distinguish diploid, triploid and tetraploid sub-populations and % mitosis. When tested at fixed intervals of time, it was possible to calculate generation time.

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
7-AAD is soluble in chloroform (1 mg/ml) and produce a clear, dark red solution. One milligram of 7-AAD is soluble in 50 µl of absolute methanol. A further addition of 950 µl of 1x PBS with Ca²⁺ and Mg²⁺ will achieve a concentration of 1 mg/ml.⁶

Storage/Stability
A solution prepared by adding 1mg of 7-AAD to 50 µl of absolute methanol followed by a further addition of 950 µl of 1x PBS with Ca²⁺ and Mg²⁺ was stable for several months when stored tightly closed and protected from light at 4 °C.⁶

References