

PRODUCT INFORMATION



Aldehyde Reactive Probe (trifluoroacetate salt)

Item No. 10009350

CAS Registry No.: 627090-10-2

Formal Name: (6aR)-hexahydro-2-oxo-2-[(aminoxy)acetyl]hydrazide,1H-thieno[3aS,4S-d]imidazole-4-pentanoic acid, monotrifluoroacetate salt

Synonyms: ARP, O-(biotinylcarbazoylmethyl) Hydroxylamine

MF: C₁₂H₂₁N₅O₄S • CF₃COOH

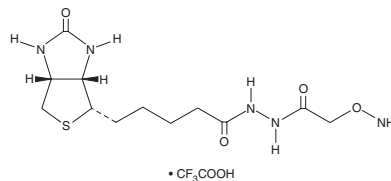
FW: 445.4

Purity: ≥95%

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Aldehyde Reactive Probe (ARP) (trifluoroacetate salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the ARP (trifluoroacetate salt) in the solvent of choice, which should be purged with an inert gas. ARP (trifluoroacetate salt) is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of ARP (trifluoroacetate salt) in DMSO is approximately 15 mg/ml and approximately 20 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of ARP (trifluoroacetate salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ARP (trifluoroacetate salt) in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

DNA is continually damaged by endogenous and environmental agents leading to the formation of abasic (apurinic/aprimidinic, AP) sites that are disruptive to DNA synthesis. ARP is a biotinylated reagent for the detection and quantification of AP sites in damaged DNA. ARP reacts with aldehyde groups formed when reactive oxygen species depurinate DNA, resulting in covalent linkage of biotin to these AP sites.¹ The biotin-tagged DNA can then be detected using common avidin-conjugated reporters such as avidin-HRP. The ARP method is highly sensitive, enabling detection of 2.4 AP sites per 1x10⁷ nucleotides of DNA.²

References

1. Kurisu, S., Miya, T., Terato, H., *et al.* Quantitation of DNA damage by an aldehyde reactive probe (ARP). *Nucleic Acids Res. Suppl.* **1**, 45-46 (2001).
2. Nakamura, J., Walker, V.E., Upton, P.B., *et al.* Highly sensitive apurinic/aprimidinic site assay can detect spontaneous and chemically induced depurination under physiological conditions. *Cancer Res.* **58(2)**, 222-225 (1998).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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