

Product Information

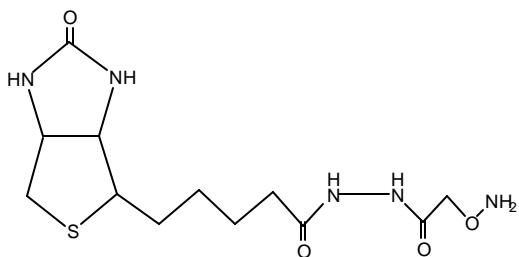
N'-AMINOXYMETHYLCARBONYL- HYDRAZINO- D- BIOTIN

Product Number **A 9723**

Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS #: 139585-03-8

Synonyms: ARP (Aldehyde Reactive Probe),
O-(Biotinylcarbazoylmethyl)hydroxylamine,
Biotin-cmha



Product Description

Molecular Formula: $\text{C}_{12}\text{H}_{21}\text{N}_5\text{O}_4\text{S}$

Molecular Weight: 331.4

N'-Aminoxymethylcarbonylhydrazino-D-biotin (ARP) is an aldehyde reactive probe used for the detection of abasic (apurinic/aprimidinic, AP) sites in DNA. Abasic sites are common DNA lesions and are suggested intermediates in mutagenesis and carcinogenesis. ARP has been used to detect abasic sites in DNA at the femtomole level (less than one site per 10^4 nucleotides) and may be utilized with either living cells or extracted DNA.^{1,2}

Biotinylated DNA may be detected by immobilization on a membrane using a dot or slot blot procedure³ or on a multiwell plate.^{1,4} The surface bound DNA can then be coupled to a streptavidin-enzyme conjugate. Alternatively, the biotinylated DNA/streptavidin-enzyme conjugate complex may be formed in solution and precipitated with an appropriate reagent.² In either case the streptavidin-enzyme conjugate can be detected with an appropriate colorimetric or chemiluminescent substrate.

Preparation Instructions

Soluble in water at 10 mg/ml.

Storage/Stability

Store the product at $-20\text{ }^{\circ}\text{C}$.

References

1. Ide, H., et al., Synthesis and damage specificity of a novel probe for the detection of abasic sites in DNA. *Biochemistry*, **32**, 8276–83 (1993).
2. Atamna, H., et al., A method for detecting abasic sites in living cells: Age-dependent changes in base excision repair. *Proc. Natl. Acad. Sci. USA*, **97**, 686–691 (2000).
3. Melendez-Colon, V.J., et al., Cancer initiation by polycyclic aromatic hydrocarbons results from formation of stable DNA adducts rather than apurinic sites. *Carcinogenesis*, **20**, 1885–91 (1999).
4. Asaeda, A., et al., Repair kinetics of abasic sites in mammalian cells selectively monitored by the aldehyde reactive probe (ARP), *Nucleosides Nucleotides*. **17**, 503–13 (1998).

KLF/JWM 11/01

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