

Product Information

3-Amino-9-ethylcarbazole

≥95% (HPLC), powder

A5754

Product Description

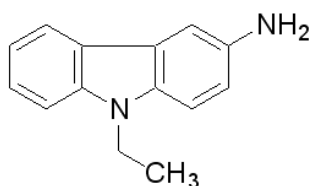
CAS Number: 132-32-1

Synonyms: AEC, 9-ethylcarbazol-3-amine

Molecular Weight: 210.27

Molecular Formula: C₁₄H₁₄N₂

Melting Point: 98.0 – 100.0 °C



3-Amino-9-ethylcarbazole (AEC) is a chromogen and enzyme substrate that is suitable for use in immunoblotting and immunohistochemical staining procedures which utilize horseradish peroxidase (HRP) conjugates.¹⁻³ The reaction of AEC with HRP produces an insoluble end product that is red in color and can be observed visually, in 0.05 M acetate buffer at pH 5. An aqueous mounting medium should be used with this product, as the end product is alcohol-soluble.

AEC has been shown to work better than benzidine in myeloperoxidase staining¹ and to be less sensitive to oxidases than phenazine methosulfate and nitroblue tetrazolium.⁴ However, AEC is not as sensitive for HRP as 2,2'-azino-bis(3-ethylbenzthiazoline-6-sulfonic acid (ABTS) or *o*-phenylenediamine (OPD).⁵ AEC can also be used to detect cytochrome oxidase.⁶ AEC can be used in combination with *N*-phenyl-*p*-phenylenediamine using cobalt ion chelation to enhance the observed color.⁷

Several dissertations⁸⁻¹⁷ have cited use of product A5754 in their protocols.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Store this product at 2-8 °C.

Solubility

This product is tested for solubility at 50 mg/mL in a 2:1 ethanol:acetic acid mixture. AEC is also soluble in DMF (*N,N*-dimethylformamide), at concentrations like 50 mg/mL.¹⁷ Another publication reports preparation of AEC stock solutions in DMSO at 20 mg/mL.¹⁸

Solutions of AEC in DMF may be stored at 4 °C when stored in the dark and kept tightly sealed. One publication reports storage of at 20 mg/mL AEC stock solutions in DMSO at -20 °C, protected from light by foil covering.¹⁸

Usage

For use as a peroxidase (HRP) substrate

- Dissolve 25 mg of AEC in 2.5 mL of DMF.
- This AEC solution is then added to 47.5 mL of 50 mM acetate buffer, pH 5.0 (final AEC concentration of 0.5 mg/mL).
- Immediately before use, add 25 µL of 30% hydrogen peroxide to this solution.

References

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