

Product Information

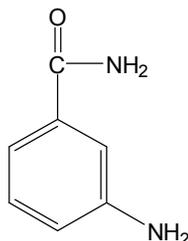
3-Aminobenzamide

Catalog Number **A0788**

Store at Room Temperature

CAS RN 3544-24-9

Synonyms: 3-ABA, 3-AB, *m*-aminobenzamide



Product Description

Molecular Formula: C₇H₈N₂O

Formula Weight: 136.15

Purity: ≥99% (TLC)

3-Aminobenzamide (3-ABA) is an inhibitor of poly-(ADP-ribose) polymerase (PARP), also known as poly-(ADP-ribose) synthetase (PARS).¹ This nuclear enzyme is activated when oxidative or nitrosative stress causes DNA strand breaks. The rapid activation of this enzyme depletes the intracellular concentration of nicotinamide, its substrate. This results in a reduced rate for cellular processes depending on nicotinamide including glycolysis, electron transport, and ATP formation. This can then lead to cell death.² It, therefore, appears 3-ABA may protect cells from the toxic effects of oxygen radicals and nitric oxide by its ability to inhibit PARP.³⁻⁵ 3-ABA inhibition of PARP has been shown to prevent nitric oxide induced apoptosis of HL-60 cells.⁶

Other studies have focused on the effect 3-ABA may have on the cytoskeleton. 3-ABA and other PARP inhibitors such as nicotinamide, 4-aminobenzamide, and luminol have been found to inhibit target cell killing by natural killer (NK) cells.⁷ The mechanism by which 3-ABA exerts this effect seems to be due to its ability to impair cell-to-cell conjugate formation. This change in cell-to-cell binding does not appear to involve changes in the expression of cell adhesion molecules, but rather it appears to result from changes in the cytoskeleton.⁸ Similarly, 3-ABA has been proposed to protect cells from apoptosis and exert antiproliferative effects by acting on the cytoskeleton.^{9,10}

3-ABA has also been shown to prevent neutrophil recruitment in cases of oxidative stress thus reducing inflammation.^{11,12}

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

The product is soluble in ethanol (50 mg/ml), yielding a clear, faintly yellow solution. It is also reported to be soluble in DMSO¹³ and water. Solubility in water may require gentle heating.

Storage/Stability

Store the product at room temperature.

References

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