

Product Information

N_a-Benzoyl-D,L-arginine 4-nitroanilide hydrochloride

Product Number **B4875**

Storage Temperature -20 °C

Replacement for Product Number 85,711-4

Product Description

Molecular Formula: C₁₉H₂₂N₆O₄ • HCl

Molecular Weight: 434.9

CAS Number: 911-77-3

Synonyms: BANI; DL-BAPA; DL-BAPNA;

N_α-Benzoyl-D,L-arginine p-nitroanilide hydrochloride

N_α-Benzoyl-D,L-arginine 4-nitroanilide hydrochloride (DL-BAPNA) is a chromogenic substrate for proteolytic enzymes such as trypsin, amidase, and balterobin.¹⁻⁵ Hydrolysis of D,L-BAPNA at the bond between the arginine and the p-nitroaniline moieties releases the chromophore p-nitroaniline, which can be detected by colorimetric analysis. A D,L-BAPNA assay of reaction products from immobilized trypsin on a glycidyl methacrylate-modified cellulose membrane packed column has been described.⁶

The complex of trypsin with α₂-macroglobulin has been shown to retain hydrolytic activity on D,L-BAPNA and the action of different inhibitors on this complex has been studied.¹ BAPNA has been used to assay the H₂O₂-mediated stimulation of Ca-ATPase activity in pulmonary smooth muscle microsomes.⁷ The release of tryptase from human lung mast cells *in vitro* has been examined with a D,L-BAPNA method.⁸

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in DMSO (50 mg/ml), with heat as needed (≤ 65 °C), yielding a clear, light yellow solution. Subsequent dilutions can be made in water. Dilute solutions of BAPNA (<1 mg/ml) can be prepared directly in water.

Storage/Stability

A solution in DMSO (containing a small portion of ethanol) is stable for about one week at room temperature.

References

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2. Hjelmeland, K., and Raa, J., Characteristics of two trypsin type isozymes isolated from the arctic fish capelin (*Mallotus villosus*). *Comp. Biochem. Physiol. B.*, **71(4)**, 557-562 (1982).
3. Breden, T. G., et al., Effects of substrate and separation method on acrosin amidase measurements. *J. Androl.*, **17(4)**, 443-448 (1996).
4. Martinez, A., et al., Purification and characterization of two trypsin-like enzymes from the digestive tract of anchovy *Engraulis encrasicolus*. *Comp. Biochem. Physiol. B.*, **91(4)**, 677-684 (1988).
5. Smolka, M. B., et al., Purification and partial characterization of a thrombin-like enzyme, balterobin, from the venom of *Bothrops alternatus*. *Toxicon*, **36(7)**, 1059-1063 (1998).
6. Jiang, H., et al., On-line characterization of the activity and reaction kinetics of immobilized enzyme by high-performance frontal analysis. *J. Chromatogr. A*, **903(1-2)**, 77-84 (2000).
7. Ghosh, S. K., et al., Oxidant-mediated proteolytic activation of Ca⁺-ATPase in microsomes of pulmonary smooth muscle. *FEBS Lett.*, **387(2-3)**, 171-174 (1996).
8. Lavens, S. E., et al., A sensitive colorimetric assay for the release of tryptase from human lung mast cells *in vitro*. *J. Immunol. Methods*, **166(1)**, 93-102 (1993).

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