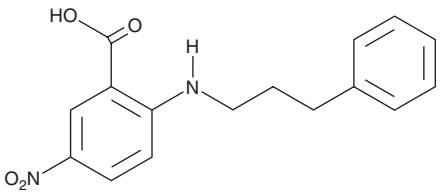
PRODUCT INFORMATION

NPPB

Item No. 17292

CAS Registry No.:	107254-86-4
Formal Name:	5-nitro-2-[(3-phenylpropyl)amino]-benzoic acid
Synonyms:	HOE 144, Hoechst 144
MF:	$C_{16}H_{16}N_2O_4$
FW:	300.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 215, 366 nm
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

NPPB is supplied as a crystalline solid. A stock solution may be made by dissolving the NPPB in the solvent of choice, which should be purged with an inert gas. NPPB is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of NPPB in ethanol is approximately 1 mg/ml and approximately 50 mg/ml in DMSO and DMF.

NPPB is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, NPPB should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. NPPB has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

NPPB is a chloride channel blocker (IC_{50} = 80 nM) that has also been identified as a GPR35 agonist.[1-3] It has been shown to activate the GPR35-$G\alpha_{i/o}$ and GPR35-$G\alpha_{16}$ pathways in HEK293 cells, inducing intracellular calcium mobilization.[3] NPPB has protonophoric activity and has been used to uncouple mitochondrial ATP synthesis in phagocytes.[4]

References

1. Keeling, D.J., Taylor, A.G., and Smith, P.L. Effects of NPPB (5-nitro-2-(3-phenylpropylamino)benzoic acid) on chloride transport in intestinal tissues and the T_{84} cell line. *Biochim. Biophys. Acta* **1115(1)**, 42-48 (1991).
2. Bertollini, C., Murana, E., Mosca, L., *et al*. Transient increase in neuronal chloride concentration by neuroactive aminoacids released from glioma cells. *Front. Mol. Neurosci.* **5**, 100 (2012).
3. Taniguchi, Y., Tonai-Kachi, H., and Shinjo, K. 5-Nitro-2-(3-phenylpropylamino)benzoic acid is a GPR35 agonist. *Pharmacology* **82(4)**, 245-259 (2008).
4. Lukacs, G.L., Nanda, A., Rotstein, O.D., *et al*. The chloride channel blocker 5-nitro-2-(3-phenylpropyl-amino) benzoic acid (NPPB) uncouples mitochondria and increases the proton permeability of the plasma membrane in phagocytic cells. *FEBS Lett.* **288(1-2)**, 17-20 (1991).

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