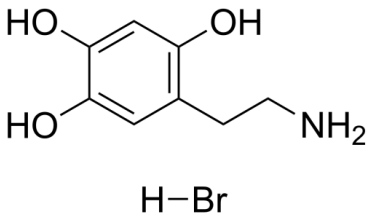
Data Sheet

Product Name:	Oxidopamine (hydrobromide)
Cat. No.:	CS-5966
CAS No.:	636-00-0
Molecular Formula:	$C_8H_{12}BrNO_3$
Molecular Weight:	250.09
Target:	Apoptosis; Autophagy; Caspase; COX; Dopamine Receptor; Interleukin Related; Mitophagy; p38 MAPK; PGE synthase
Pathway:	Apoptosis; Autophagy; GPCR/G Protein; Immunology/Inflammation; MAPK/ERK Pathway; Neuronal Signaling
Solubility:	DMSO : 50 mg/mL (199.93 mM; ultrasonic and warming and heat to 60°C); H2O : 20 mg/mL (79.97 mM; Need ultrasonic)



BIOLOGICAL ACTIVITY:

Oxidopamine (6-OHDA) hydrobromide is an antagonist of the **neurotransmitter dopamine**. Oxidopamine hydrobromide is a widely used neurotoxin and selectively destroys dopaminergic neurons. Oxidopamine hydrobromide promotes **COX-2** activation, leading to **PGE_2** synthesis and pro-inflammatory cytokine **IL-1β** secretion. Oxidopamine hydrobromide can be used for the research of Parkinson's disease (PD), attention-deficit hyperactivity disorder (ADHD), and Lesch-Nyhan syndrome[1][2][3][4]. ***In Vitro:*** Oxidopamine hydrobromide (0-500 μM, 24 h) decreases the viability of both Neuro-2a cells and SH-SY5Y cells in a concentration-dependent manner[1].

Oxidopamine hydrobromide (75-150 μM, 0-24 h) induces COX-2 expression and nuclear translocation[1].

Oxidopamine hydrobromide (75-150 μM, 0-24 h) causes PGE_2 biosynthesis and pro-inflammatory cytokine IL-1β production[1].

Oxidopamine hydrobromide (0-150 μM, 12 h) induces **apoptosis** and mitochondrial membrane depolarization of pheochromocytoma PC12 cells[3].

Oxidopamine hydrobromide (75 μM, 0-12 h) induces p38 phosphorylation[3]. ***In Vivo:*** Oxidopamine hydrobromide (5 μg/2 μL, unilaterally injected into the right striatum) induces degeneration of dopaminergic neurons in substantia nigra of rats[2].

References:

[1]. Fujita H et al. Cell-permeable cAMP analog suppresses 6-hydroxydopamine-induced apoptosis in PC12 cells through the activation of the Akt pathway. Brain Res. 2006 Oct 3;1113(1):10-23.

[2]. Soto-Otero R et al. Autoxidation and neurotoxicity of 6-hydroxydopamine in the presence of some antioxidants: potential implication in relation to the pathogenesis of Parkinson's disease. J Neurochem. 2000 Apr;74(4):1605-12.

[3]. Jin F, et al. Neuroprotective effect of resveratrol on 6-OHDA-induced Parkinson's disease in rats. Eur J Pharmacol. 2008 Dec 14;600(1-3):78-82.

[4]. Kang X, et al. Cyclooxygenase-2 contributes to oxidopamine-mediated neuronal inflammation and injury via the prostaglandin E2 receptor EP2 subtype. Sci Rep. 2017 Aug 25;7(1):9459.

CAIndexNames:

1,2,4-Benzenetriol, 5-(2-aminoethyl)-, hydrobromide (1:1)

SMILES:

Caution: Product has not been fully validated for medical applications. For research use only.

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