

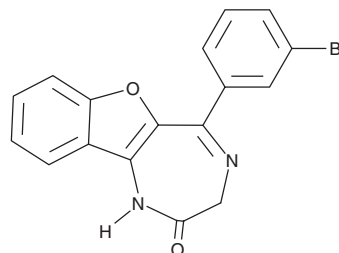
PRODUCT INFORMATION



5-BDBD

Item No. 42034

CAS Registry No.: 768404-03-1
Formal Name: 5-(3-bromophenyl)-1,3-dihydro-2H-benzofuro[3,2-e]-1,4-diazepin-2-one
MF: C₁₇H₁₁BrN₂O₂
FW: 355.2
Purity: ≥98%
Supplied as: A 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

5-BDBD is supplied as a solid. A stock solution may be made by dissolving the 5-BDBD in the solvent of choice, which should be purged with an inert gas. 5-BDBD is slightly soluble (0.1-1 mg/ml) in DMSO.

Description

5-BDBD is an antagonist of the purinergic P2X₄ receptor (IC₅₀ = 0.75 μM).¹ It is selective for P2X₄ over P2X₁, P2X_{2a}, P2X_{2b}, and P2X₇ but does inhibit P2X₃ by 35.9% at 10 μM. 5-BDBD (10 μM) decreases field excitatory postsynaptic potential (fEPSP) slopes in rat hippocampal slices. 5-BDBD (28 mg/kg) inhibits nitroglycerin-induced mechanical hyperalgesia in a mouse model of chronic migraine.² It decreases plasma creatinine and blood urea nitrogen levels, renal tubular necrosis and apoptosis, and renal neutrophil infiltration in a mouse model of ischemia-reperfusion-induced acute kidney injury.³ 5-BDBD (1 mg/kg) decreases infarct volume and improves neurological deficits in a mouse model of ischemic stroke induced by middle cerebral artery occlusion (MCAO).⁴

References

1. Coddou, C., Sandoval, R., Hevia, M.J., *et al.* Characterization of the antagonist actions of 5-BDBD at the rat P2X₄ receptor. *Neurosci. Lett.* **690**, 219-224 (2019).
2. Long, T., He, W., Pan, Q., *et al.* Microglia P2X₄ receptor contributes to central sensitization following recurrent nitroglycerin stimulation. *J. Neuroinflammation* **15**(1), 245 (2018).
3. Han, S.J., Lovaszi, M., Kim, M., *et al.* P2X₄ receptor exacerbates ischemic AKI and induces renal proximal tubular NLRP3 inflammasome signaling. *FASEB J.* **34**(4), 5465-5482 (2020).
4. Srivastava, P., Cronin, C.G., Scranton, V.L., *et al.* Neuroprotective and neuro-rehabilitative effects of acute purinergic receptor P2X₄ (P2X_{4R}) blockade after ischemic stroke. *Exp. Neurol.* **329**:113308, (2020).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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