

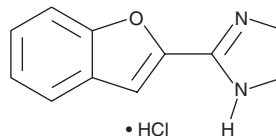
# PRODUCT INFORMATION



## 2-BFI (hydrochloride)

Item No. 42338

**CAS Registry No.:** 89196-95-2  
**Formal Name:** 2-(2-benzofuranyl)-4,5-dihydro-1H-imidazole, monohydrochloride  
**Synonym:** 2-(2-Benzofuranyl)-2-imidazoline  
**MF:** C<sub>11</sub>H<sub>10</sub>N<sub>2</sub>O • HCl  
**FW:** 222.7  
**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

2-BFI (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the 2-BFI (hydrochloride) in the solvent of choice, which should be purged with an inert gas. 2-BFI (hydrochloride) is slightly soluble (0.1-1 mg/ml) in acetonitrile.

### Description

2-BFI is an agonist of the imidazoline I<sub>2</sub> receptor.<sup>1</sup> It selectively binds to the imidazoline I<sub>2</sub> receptor over α<sub>2</sub>-adrenergic receptors (α<sub>2</sub>-ARs) in rabbit whole brain membranes (K<sub>i</sub>s = 0.0013 and 3.736 μM, respectively), as well as the imidazoline I<sub>1</sub> receptor in human platelet membranes (K<sub>i</sub>s = 0.0667 and 53 μM for the high- and low-affinity sites, respectively).<sup>1,2</sup> 2-BFI (100 μmol/kg) reduces immobility time in the tail suspension test, an effect that can be reversed by idazoxan, methysergide (Item No. 27658), or haloperidol (Item No. 12014).<sup>3</sup> Intracerebroventricular administration of 2-BFI (10 μg/animal) enhances morphine-induced antinociception in the tail-flick test in mice.<sup>4</sup> 2-BFI improves neurological deficits, reduces brain edema, microglia activation, and neutrophil infiltration, and inhibits neuronal necrosis in a rat model of traumatic brain injury.<sup>5</sup>

### References

1. Hudson, A.L., Chapleo, C.B., Lewis, J.W., *et al.* Identification of ligands selective for central I<sub>2</sub>-imidazoline binding sites. *Neurochem. Int.* **30**(1), 47-53 (1997).
2. Piletz, J.E., Zhu, H., and Chikkala, D.N. Comparison of ligand binding affinities at human I<sub>1</sub>-imidazoline binding sites and the high affinity state of alpha-2 adrenoceptor subtypes. *J. Pharmacol. Exp. Ther.* **279**(2), 694-702 (1996).
3. Tonello, R., Villarinho, J.G., da Silva Sant'Anna, G., *et al.* The potential antidepressant-like effect of imidazoline I<sub>2</sub> ligand 2-BFI in mice. *Prog. Neuropsychopharmacol. Biol. Psychiatry* **37**(1), 15-21 (2012).
4. Sánchez-Blázquez, P., Boronat, M.A., Olmos, G., *et al.* Activation of I<sub>2</sub>-imidazoline receptors enhances supraspinal morphine analgesia in mice: A model to detect agonist and antagonist activities at these receptors. *Br. J. Pharmacol.* **130**(1), 146-152 (2000).
5. Ni, H., Rui, Q., Lin, X., *et al.* 2-BFI provides neuroprotection against inflammation and necroptosis in a rat model of traumatic brain injury. *Front. Neurosci.* **13**, 674 (2019).

#### 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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