

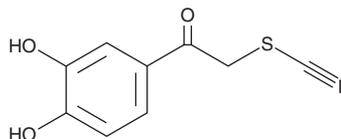
PRODUCT INFORMATION



BIX

Item No. 32969

CAS Registry No.: 101714-41-4
Formal Name: 2-(3,4-dihydroxyphenyl)-2-oxoethyl ester thiocyanic acid
Synonym: BiP Inducer X
MF: C₉H₇NO₃S
FW: 209.2
Purity: ≥98%
UV/Vis.: λ_{max}: 235, 283, 315 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

BIX is supplied as a crystalline solid. A stock solution may be made by dissolving the BIX in the solvent of choice, which should be purged with an inert gas. BIX is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of BIX in these solvents is approximately 30 mg/ml.

BIX is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, BIX should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. BIX has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

BIX is an inducer of the chaperone protein glucose-regulated protein 78 kDa (GRP78), also known as heat shock 70 kDa protein 5 (HspA5) and immunoglobulin heavy chain-binding protein (BiP).¹ It induces expression of the gene encoding GRP78, but not those encoding calreticulin, CHOP, EDEM, p58^{IPK}, or ASNA, in SK-N-SH neuroblastoma cells when used at a concentration of 50 μM. BIX (5 μM) reduces endoplasmic reticulum (ER) stress-induced apoptosis in SK-N-SH cells. *In vivo*, BIX (20 μg/2 μl, i.c.v.) reduces infarct volume and brain swelling in a mouse model of cerebral ischemia induced by middle cerebral artery occlusion (MCAO). It protects against carotid artery occlusion-induced neuronal apoptosis in gerbil hippocampus.² BIX also increases renal GRP78 protein levels and attenuates ischemia and reperfusion-induced renal injury in mice.³

References

1. Kudo, T., Kanemoto, S., Hara, H., *et al.* A molecular chaperone inducer protects neurons from ER stress. *Cell Death Differ.* **15(2)**, 364-375 (2008).
2. Oida, Y., Izuta, H., Oyagi, A., *et al.* Induction of BiP, an ER-resident protein, prevents the neuronal death induced by transient forebrain ischemia in gerbil. *Brain Res.* **1208**, 217-224 (2008).
3. Prachasilchai, W., Sonoda, H., Yokota-Ikeda, N., *et al.* The protective effect of a newly developed molecular chaperone-inducer against mouse ischemic acute kidney injury. *J. Pharmacol. Sci.* **109(2)**, 311-314 (2009).

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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