

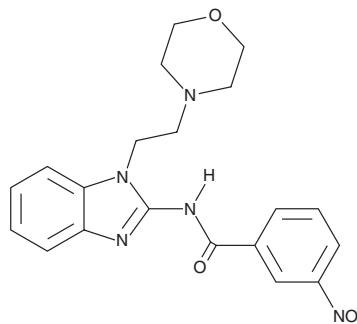
PRODUCT INFORMATION



IRAK-1/4 Inhibitor

Item No. 17540

CAS Registry No.: 509093-47-4
Formal Name: N-[1-[2-(4-morpholinyl)ethyl]-1H-benzimidazol-2-yl]-3-nitro-benzamide
MF: C₂₀H₂₁N₅O₄
FW: 395.4
Purity: ≥98%
UV/Vis.: λ_{max}: 224, 259, 322 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

IRAK-1/4 inhibitor is supplied as a crystalline solid. A stock solution may be made by dissolving the IRAK-1/4 inhibitor in the solvent of choice, which should be purged with an inert gas. IRAK-1/4 inhibitor is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of IRAK-1/4 inhibitor in these solvents is approximately 1 and 0.5 mg/ml, respectively.

Description

Interleukin-1 receptor-associated kinases (IRAKs) are important mediators in the signal transduction of Toll/IL-1 receptor (TIR) family members. Dysregulation of TIR signaling, typified by increased NF-κB activity, results in the development of some cancers and other diseases, making the development of IRAK inhibitors a potential therapeutic strategy. IRAK-1/4 inhibitor is a benzimidazole that disrupts the activity of IRAK-1 and -4 with IC₅₀ values of 0.3 and 0.2 μM, respectively.¹ It demonstrates IC₅₀ values >10 μM in a panel of 27 other kinases tested.¹ This compound has been used to inhibit a pro-inflammatory response in microglia isolated from clinically diagnosed Alzheimer's disease patients.²

References

1. Powers, J.P., Li, S., Jaen, J.C., *et al.* Discovery and initial SAR of inhibitors of interleukin-1 receptor-associated kinase-4. *Bioorg. Med. Chem. Lett.* **16(11)**, 2842-2845 (2006).
2. Hoozemans, J.J.M., van Haastert, E.S., Mulder, S.D., *et al.* Increased IRAK-4 kinase activity in Alzheimer's disease; IRAK-1/4 inhibitor I prevents pro-inflammatory cytokine secretion but not the uptake of amyloidβ by primary human glia. *J. Clin. Cell. Immunol.* **5**, (2014).

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.

WARRANTY AND LIMITATION OF REMEDY

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