

PRODUCT INFORMATION

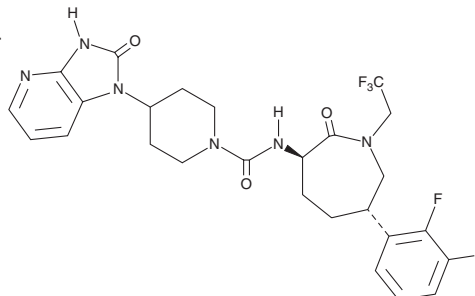


MK-0974

Item No. 23960

CAS Registry No.: 781649-09-0
Formal Name: N-[(3R,6S)-6-(2,3-difluorophenyl)hexahydro-2-oxo-1-(2,2,2-trifluoroethyl)-1H-azepin-3-yl]-4-(2,3-dihydro-2-oxo-1H-imidazo[4,5-b]pyridin-1-yl)-1-piperidinecarboxamide

MF: C₂₆H₂₇F₅N₆O₃
FW: 566.5
Purity: ≥98%
UV/Vis.: λ_{max}: 293 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

MK-0974 is supplied as a crystalline solid. A stock solution may be made by dissolving the MK-0974 in the solvent of choice, which should be purged with an inert gas. MK-0974 is soluble in organic solvents such as ethanol and DMSO. The solubility of MK-0974 in these solvents is approximately 1 mg/ml and 10 mM, respectively.

Description

MK-0974 is an orally bioavailable antagonist of the calcitonin gene-related peptide (CGRP) receptor complex (K_i = 0.77 μM), which is composed of the calcitonin receptor-like receptor (CRLR) and receptor activity modifying protein 1 (RAMP1).¹ MK-0974 binds selectively to the human CGRP receptor complex, over the adrenomedullin receptor complexes, which are composed of CRLR and RAMP2 or RAMP3 (K_{i,s} = >100 and 29 μM, respectively, in HEK293 cells). MK-0974 also binds to rhesus, canine, and rat CGRP receptor complexes (K_{i,s} = 1.2, 1,204, and 1,192 nM, respectively). MK-0974 inhibits cAMP accumulation stimulated by CGRP (Item No. 24405) with an IC₅₀ value of 2.2 nM in HEK293 cells expressing the CGRP receptor complex. *Ex vivo*, MK-0974 (5 μM) reduces CGRP-induced vasodilation in isolated human meningeal arteries.² MK-0974 also inhibits vasodilation induced by topical application of capsaicin (Item No. 92350) in rhesus monkeys (EC₅₀ = 127 nM).¹

References

1. Salvatore, C.A., Hershey, J.C., Corcoran, H.A., *et al.* Pharmacological characterization of MK-0974 [N-[(3R,6S)-6-(2,3-difluorophenyl)-2-oxo-1-(2,2,2-trifluoroethyl)azepan-3-yl]-4-(2-oxo-2,3-dihydro-1H-imidazo[4,5-b]pyridin-1-yl)piperidine-1-carboxamide], a potent and orally active calcitonin gene-related peptide receptor antagonist for the treatment of migraine. *J. Pharmacol. Exp. Ther.* **324**(2), 416-421 (2008).
2. Gründe, G., Labrujere, S., Haanes, K.A., *et al.* Comparison of the vasodilator responses of isolated human and rat middle meningeal arteries to migraine related compounds. *J. Headache Pain* **15**, 22 (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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