

PRODUCT INFORMATION



GW 542573X

Item No. 43213

CAS Registry No.: 660846-41-3

Formal Name: 4-[[[(2-methoxyphenyl)amino]carbonyloxy]methyl]-1-piperidinecarboxylic acid, 1,1-dimethylethyl ester

MF: C₁₉H₂₈N₂O₅

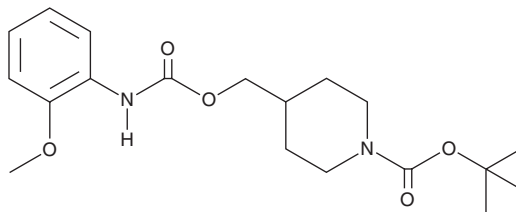
FW: 364.4

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

GW 542573X is supplied as a solid. A stock solution may be made by dissolving the GW 542573X in the solvent of choice, which should be purged with an inert gas. GW 542573X is sparingly soluble (1-10 mg/ml) in ethanol and DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of GW 542573X can be prepared by directly dissolving the solid in aqueous buffers. GW 542573X is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

GW 542573X is an activator of small-conductance calcium-activated potassium channel K_{Ca}2.1/SK1.¹ It increases current in an inside-out patch clamp assay using HEK293 cells expressing the human channel (EC₅₀ = 8.2 μM). GW 542573X is selective for K_{Ca}2.1/SK1 over K_{Ca}2.2/SK2, K_{Ca}2.3/SK3, and intermediate-conductance calcium-activated potassium channel K_{Ca}3.1/IK in whole-cell patch clamp assays using HEK293 cells expressing the human channels at 10 μM, as well as the voltage-gated sodium channel Na_v1.3, N-type voltage-gated calcium channel Ca_v2.2, voltage-gated potassium channel K_v1.3, purinergic P2X_{2/3} receptor, and α7 nicotinic acetylcholine receptor (nAChR) at 30 μM. *In vivo*, GW 542573X (15 mg/kg) decreases freezing time in contextual fear but not cued fear memory tests in mice when administered prior to the conditioning period.²

References

1. Hougaard, C., Jensen, M.L., Dale, T.J., *et al.* Selective activation of the SK1 subtype of human small-conductance Ca²⁺-activated K⁺ channels by 4-(2-methoxyphenylcarbamoyloxymethyl)-piperidine-1-carboxylic acid *tert*-butyl ester (GW542573X) is dependent on serine 293 in the S5 segment. *Mol. Pharmacol.* **76**(3), 569-578 (2009).
2. Rice, C.A. and Stackman, R.W., Jr. The small conductance Ca²⁺-activated K⁺ channel activator GW542573X impairs hippocampal memory in C57BL/6J mice. *Neuropharmacology* **252**:109960, (2024).

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

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 04/16/2025

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM