

Product Data Sheet

Product Name: SKF-96365

Cat. No.: GC79519

Chemical Properties

Cas. No. 162849-90-3

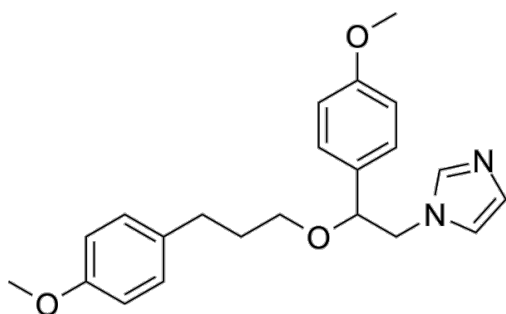
Formula $C_{22}H_{26}N_2O_3$ M.Wt 366.45

Solubility DMSO: 100 mg/mL (272.89 mM; Need ultrasonic) Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

SKF-96365 is a TRPC channel antagonist and store-operated calcium entry (SOCE) inhibitor. SKF-

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Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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96365 reduces calcium ion influx by inhibiting the activity and expression of TRPC6, STIM1 and Orai1. SKF-96365 inhibits voltage-gated sodium current (cardiac I Na /NaV1.5) and slows myocardial conduction. SKF-96365 inhibits phosphorylation/activation of CaMKII γ and suppresses the downstream AKT signaling pathway. SKF-96365 induces G 2 /M phase cell cycle arrest, apoptosis and cytoprotective autophagy in colorectal cancer cells. SKF-96365 alleviates allergic rhinitis symptoms by reducing inflammatory cytokine levels. SKF-96365 reduces intracellular calcium overload, inhibits Homer1 expression, prevents nuclear damage and suppresses apoptosis. SKF-96365 inhibits the growth of colorectal cancer xenografts in nude mice. SKF-96365 is applicable to research related to allergic rhinitis, colorectal cancer, Parkinson's disease, persistent spontaneous nociception and hyperalgesia [1] [2] [3] [4] [5].

In Vivo, SKF-96365 (200-400 μ g; intranasal administration; once daily; for 8 consecutive days) dose-dependently alleviates allergic rhinitis symptoms and suppresses inflammatory responses in BALB/c mice^[1]. SKF-96365 (20 mg/kg; i.p.; once daily for 14 consecutive days) inhibits the growth of colorectal cancer xenografts in athymic BALB/c nude mice by inducing cell cycle arrest, apoptosis and protective autophagy via suppressing the CaMKII γ /AKT-mediated pathway^[3].

In Vitro, SKF-96365 (0-10 μ M; applied until steady-state inhibition is reached) inhibits hNaV1.5 currents stably expressed in HEK 293 cells, with an IC₅₀ of 0.94 μ M^[2]. SKF-96365 (0-20 μ M) dose-dependently inhibits store-operated calcium entry in human colorectal cancer cell lines HCT116 and HT29^[3]. SKF-96365 (0-40 μ M, 48-72 h) inhibits the growth of human colorectal cancer cells HCT116 (IC₅₀ = 10.88 μ M) and HT29 (IC₅₀ = 14.56 μ M), and exhibits significantly lower toxicity against normal colonic epithelial cells NCM460^[3]. SKF-96365 (0-20 μ M, 48 h) induces G2/M cell cycle arrest in human colorectal cancer cells HCT116 and HT29 by regulating key G2/M transition proteins, including upregulating p21waf/Cip1 and downregulating p-Cdc25c, Cdc25c, and Cyclin B^[3]. SKF-96365 (10 μ M, 0-24 h) induces apoptosis in human colorectal cancer cell lines HCT116 and HT29 via the endogenous mitochondrial pathway, a process characterized by early (12 h) mitochondrial membrane depolarization, Bax translocation and cytochrome c release, followed by caspase activation and marked apoptosis (24 h)^[3]. SKF-96365 (0-20 μ M, 12 h) induces cytoprotective autophagy in human colorectal cancer cells HCT116 and HT29. This effect appears as early as 12 h (prior to apoptosis) and antagonizes apoptosis by sequestering mitochondria into autophagosomes to

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reduce cytosolic cytochrome c levels^[3]. SKF-96365 (0-20 μ M, 24 h) inhibits the AKT/mTOR signaling pathway and the calcium/ Ca^{2+} /CaMKII γ /AKT signaling pathway in human colorectal cancer cell lines HCT116 and HT29^[3]. SKF-96365 (1-50 μ M, 24 h) significantly increases the survival rate of PC12 cells treated with MPP⁺, reduces LDH release, alleviates nuclear damage, membrane damage, and late apoptotic cell death, mitigates intracellular calcium overload, and decreases the mRNA and protein expression levels of Homer1^[4]. SKF-96365 (1-10 μ M) inhibits melittin-induced inward currents in acutely isolated small and medium-sized dorsal root ganglion cells of rats in a dose-dependent manner^[5]. SKF-96365 (10 μ M) inhibits melittin-induced intracellular Ca^{2+} elevation, and the proportion of cells exhibiting this inhibitory effect reaches 46.5% in acutely isolated rat dorsal root ganglion cells sensitive to melittin^[5].

References:

- [1]. Ba G, et al. Therapeutic effects of SKF-96365 on murine allergic rhinitis induced by OVA. Int J Immunopathol Pharmacol. 2021;35:20587384211015054.
- [2]. Chen KH, et al. SKF-96365 strongly inhibits voltage-gated sodium current in rat ventricular myocytes. Pflugers Arch. 2015;467(6):1227-1236.
- [3]. Jing Z, et al. SKF-96365 activates cytoprotective autophagy to delay apoptosis in colorectal cancer cells through inhibition of the calcium/CaMKII γ /AKT-mediated pathway. Cancer Lett. 2016;372(2):226-238.
- [4]. Chen T, et al. Protective effects of SKF-96365, a non-specific inhibitor of SOCE, against MPP⁺-induced cytotoxicity in PC12 cells: potential role of Homer1. PLoS One. 2013;8(1):e55601.
- [5]. Ding J, et al. Effects of SKF-96365, a TRPC inhibitor, on melittin-induced inward current and intracellular Ca^{2+} rise in primary sensory cells. Neurosci Bull. 2011;27(3):135-142.

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