

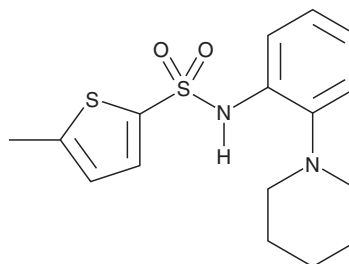
PRODUCT INFORMATION



MK6-83

Item No. 21944

CAS Registry No.: 1062271-24-2
Formal Name: 5-methyl-N-[2-(1-piperidinyl)phenyl]-2-thiophenesulfonamide
MF: C₁₆H₂₀N₂O₂S₂
FW: 336.5
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

MK6-83 is supplied as a crystalline solid. A stock solution may be made by dissolving the MK6-83 in the solvent of choice. MK6-83 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of MK6-83 in ethanol is approximately 5 mg/ml and approximately 30 mg/ml in DMSO and DMF.

MK6-83 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MK6-83 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. MK6-83 has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

MK6-83 is an activator of the transient receptor potential cation channel, mucolipin subfamily (TRPML1).¹ TRPML1 is mutated in mucopolipidosis type IV (MLIV), a hereditary lysosomal storage disorder characterized by severe delays in intellectual and motor development. MK6-83 increases activity of TRPML1 in lysosomes expressing either wild type or F465L-mutated channels (EC₅₀s = 110 and 100 nM, respectively) and in MLIV patient-derived fibroblasts.¹ It is more effective for F465L mutations than F408Δ (EC₅₀ = 1,230 nM). It also improves zinc trafficking out of lysosomes in F408Δ-expressing fibroblast cells.

Reference

1. Chen, C.-C., Keller, M., Hess, M., *et al.* A small molecule restores function to TRPML1 mutant isoforms responsible for mucopolipidosis type IV. *Nat. Commun.* **5:4681** (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.

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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