

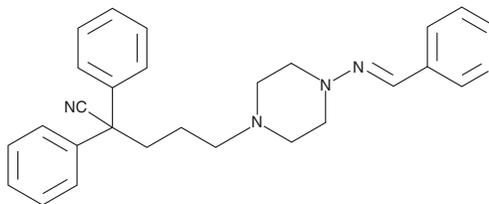
PRODUCT INFORMATION



SC-26196

Item No. 10792

CAS Registry No.: 218136-59-5
Formal Name: α,α -diphenyl-4-[(3-pyridinylmethylene)amino]-1-piperazinepentanenitrile
MF: C₂₇H₂₉N₅
FW: 423.6
Purity: $\geq 98\%$
UV/Vis.: λ_{max} : 303 nm
Storage: -20°C
Stability: ≥ 4 years



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

Laboratory Procedures

SC-26196 is supplied as a crystalline solid. A stock solution may be made by dissolving the SC-26196 in the solvent of choice, which should be purged with an inert gas. SC-26196 is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of SC-26196 in these solvents is approximately 12 mg/ml, respectively.

SC-26196 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, SC-26196 should first be dissolved in DMF and then diluted with the aqueous buffer of choice. SC-26196 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

The enzyme Δ^6 desaturase mediates the conversion of linoleic acid to γ -linolenic acid (GLA), which can then be elongated to dihomo- γ -linolenic acid (DGLA). DGLA can then be used as a substrate for Δ^5 desaturase to produce arachidonic acid (AA), the fatty acid that is used to generate eicosanoids. SC-26196 is an inhibitor of Δ^6 desaturase ($IC_{50} = 0.2 \mu\text{M}$ in a rat liver microsomal assay) that completely blocks the conversion of linoleic acid to arachidonic acid (AA).¹ It is selective for Δ^6 desaturase, as IC_{50} values for Δ^5 and Δ^9 desaturases exceed 200 μM , and it has no effect on the conversion of dihomo- γ -linolenic acid to AA.^{1,2} SC-26196 is orally active *in vivo*, decreasing edema in the carrageenan paw edema model in mice.¹ It also blocks aging-related increases in AA in myocardial cardiolipin in mice, attenuating contractile dysfunction without impacting mitochondrial oxidative stress.³

References

1. Obukowicz, M.G., Welsch, D.J., Salsgiver, W.J., et al. Novel, selective Δ^6 or Δ^5 fatty acid desaturase inhibitors as anti-inflammatory agents in mice. *J. Pharmacol. Exp. Ther.* **287(1)**, 157-166 (1998).
2. Harmon, S.D., Kaduce, T.L., Manuel, T.D., et al. Effect of the Δ^6 -desaturase inhibitor SC-26196 on PUFA metabolism in human cells. *Lipids* **38(4)**, 469-476 (2003).
3. Mulligan, C.M., Le, C.H., deMooy, A.B., et al. Inhibition of Δ^6 desaturase reverses cardiolipin remodeling and prevents contractile dysfunction in the aged mouse heart without altering mitochondrial respiratory function. *J. Gerontol. A Biol. Sci. Med. Sci.* **69(7)**, 799-809 (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