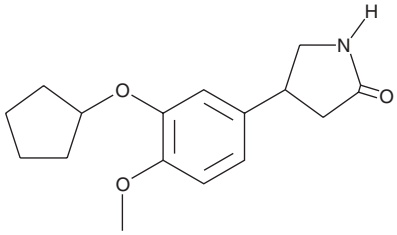
PRODUCT INFORMATION

(±)-Rolipram

Item No. 10011132

CAS Registry No.:	61413-54-5
Formal Name:	4-[3-(cyclopentyloxy)-4-methoxyphenyl]-2-pyrrolidinone
Synonyms:	SB 95952, ZK 62711
MF:	$C_{16}H_{21}NO_3$
FW:	275.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 231, 280 nm
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

Rolipram is supplied as a crystalline solid. A stock solution may be made by dissolving the rolipram in an organic solvent purged with an inert gas. Rolipram is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of rolipram in ethanol is approximately 5 mg/ml and approximately 10 mg/ml in DMSO and DMF.

Rolipram is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, rolipram should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Rolipram has a solubility of approximately 0.5 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Type 4 cyclic nucleotide phosphodiesterases (PDE4) isoforms selectively inactivate the second messenger cAMP by hydrolyzing the phosphodiester bond, producing AMP. (±)-Rolipram is a cell-permeable selective PDE4 inhibitor. Since PDE4 is abundant in leukocytes, (±)-rolipram inhibits inflammation by suppressing leukocyte function, inhibiting C5a-stimulated LTC_4 synthesis in eosinophils (IC_{50} = 200 nM),[1] and lipopolysaccharide-induced TNF synthesis in monocytes (IC_{50} = 360 nM).[2] (±)-Rolipram also enhances neuronal survival,[3] has antipsychotic effects in mice,[4] and suppresses bone loss in ovariectomized rats.[5]

References

1. Tenor, H., Hatzelmann, A., Church, M.K., *et al. Br. J. Pharmacol.* **118**, 1727-1735 (1996).
2. Souness, J.E., Griffin, M., Maslen, C., *et al. Br. J. Pharmacol.* **118**, 649-658 (1996).
3. Sasaki, T., Kitagawa, K., Omura-Matsuoka, E., *et al. Stroke* **38**, 1597-1605 (2007).
4. Kanes, S.J., Tokarczyk, J., Siegel, S.J., *et al. Neuroscience* **144**, 239-246 (2007).
5. Yao, W., Tian, X.Y., Chen, J., *et al. J. Musculoskelet. Neuronal. Interact.* **7(2)**, 119-130 (2007).

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