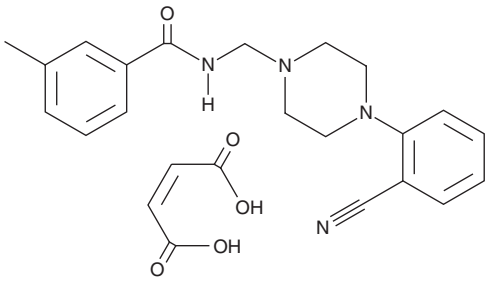
PRODUCT INFORMATION

PD 168077 (maleate)

Item No. 29789

CAS Registry No.: 630117-19-0
Formal Name: N-[[4-(2-cyanophenyl)-1-piperazinyl]methyl]-3-methyl-benzamide, (2Z)-2-butenedioate
MF: $C_{20}H_{22}N_4O \bullet C_4H_4O_4$
FW: 450.5
Purity: ≥98%
UV/Vis.: λ_{max}: 220 nm
Supplied as: A crystalline 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

PD 168077 (maleate) is supplied as a crystalline solid. A stock solution may be made by dissolving the PD 168077 (maleate) in the solvent of choice, which should be purged with an inert gas. PD 168077 (maleate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of PD 168077 (maleate) in these solvents is approximately 1 mg/ml.

PD 168077 (maleate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PD 168077 (maleate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. PD 168077 (maleate) has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

PD 168077 is a dopamine D_4 receptor agonist (K_i = 8.7 nM in CHO Pro 5 cells expressing the human receptor).[1] It is selective for dopamine D_4 over D_2 and D_3 receptors (K_is = 3,740 and 2,810 nM, respectively), as well as α_1- and α_2-adrenergic and serotonin (5-HT) receptor subtypes 5-HT_{1A} and 5-HT_{2A} (K_is = 168, 177, 385, and 4,010 nM, respectively). PD 168077 (20 µM) induces CaMKII translocation from the dendritic shaft to postsynaptic sites on the dendritic processes of primary rat embryonic prefrontal cortex pyramidal neurons, an effect that can be blocked by the IP_3 receptor antagonist 2APB or the calcium chelator BAPTA AM (Item No. 15551).[2] PD 168077 (50-200 ng/animal) induces penile erections in rats when injected into the paraventricular nucleus (PVN) of the hypothalamus.[3] PD 168077 (0.2-25 mg/kg, s.c.) increases spontaneous locomotor activity and reduces grooming and rearing in rats.[4]

References

1. Glase, S.A., Akunne, H.C., Georgic, L.M., *et al. J. Med. Chem.* **40(12)**, 1771-1772 (1997).
2. Gu, Z., Jiang, Q., Yuen, E.Y., *et al. Mol. Pharmacol.* **69(3)**, 813-822 (2005).
3. Melis, M.R., Succu, S., Mascia, M.S., *et al. Neurosci. Lett.* **379(1)**, 59-62 (2005).
4. Clifford, J.J., and Waddington, J.L. *Neuropsychopharmacology* **22(5)**, 538-544 (2000).

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