

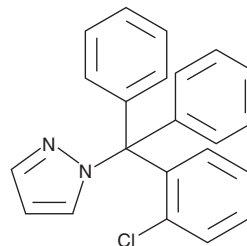
PRODUCT INFORMATION



TRAM-34

Item No. 23385

CAS Registry No.: 289905-88-0
Formal Name: 1-[(2-chlorophenyl)diphenylmethyl]-1H-pyrazole
MF: $C_{22}H_{17}ClN_2$
FW: 344.8
Purity: $\geq 98\%$
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

TRAM-34 is supplied as a crystalline solid. A stock solution may be made by dissolving the TRAM-34 in the solvent of choice. TRAM-34 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of TRAM-34 is approximately 0.2 mg/ml in ethanol and approximately 0.5 mg/ml in DMSO and DMF.

Description

TRAM-34 is a membrane-permeable inhibitor of the intermediate-conductance calcium-activated potassium channel (IKCa1/K_{Ca}3.1).¹ It blocks IKCa1 (K_d s = 20 and 25 nM for the cloned and native channel in COS-7 cells and human T lymphocytes, respectively) with 200- to 1,500-fold selectivity for IKCa1 over K_v (K_v 1.1- K_v 1.5, K_v 3.1, K_v 4.2), K_{ir} 2.1, BK/ K_{Ca} 1.1, SK_{Ca} (rSK_{Ca}2, hSK_{Ca}2, hSK_{Ca}3), native SK_{Ca}/K_{Ca}2, and CRAC in Jurkat T cells, as well as sodium and chloride channels. It also inhibits nonselective lysophosphatidylcholine-induced cation currents (IC_{50} = 38 nM).² TRAM-34 suppresses reactivation of human-derived T lymphocytes stimulated with anti-CD3 antibody after an initial pretreatment to upregulate IKCa1 channels (mean EC_{50} s = 295 and 910 nM from sensitive and less sensitive human donors, respectively).¹ It does not reduce viability of human T lymphocytes at a concentration of 5 μM over 48 hours incubation. *In vitro*, TRAM-34 (10-40 μM) inhibits proliferation of human endometrial cancer cells and induces cell cycle arrest at the G₀/G₁ phase.³ It also inhibits proliferation of LNCaP and PC3 prostate cancer cells and proliferation induced by epidermal growth factor (EGF) in smooth muscle A7r5 cells (IC_{50} = 8 nM).^{4,5} *In vivo*, TRAM-34 (120 mg/kg per day) reduces intimal hyperplasia by approximately 40% after 1, 2, and 6 weeks in a rat model of balloon catheter injury. TRAM-34 (30 μM) treatment of HEC-1-A cells prior to flank implantation into nude mice slows tumor growth *in vivo*.

References

1. Wulff, H., Miller, M.J., Hänsel, W., et al. *Proc. Natl. Acad. Sci. U.S.A.* **97**(14), 8151-8156 (2000).
2. Schilling, T. and Eder, C. *Pflugers Arch.* **454**(4), 559-563 (2007).
3. Wang, Z.H., Shen, B., Yao, H.L., et al. *Oncogene* **26**(35), 5107-5114 (2007).
4. Lallet-Daher, H., Roudbaraki, M., Bavencoffe, A., et al. *Oncogene* **28**(15), 1792-1806 (2009).
5. Köhler, R., Wulff, H., Eichler, I., et al. *Circulation* **108**(9), 1119-1125 (2003).

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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