

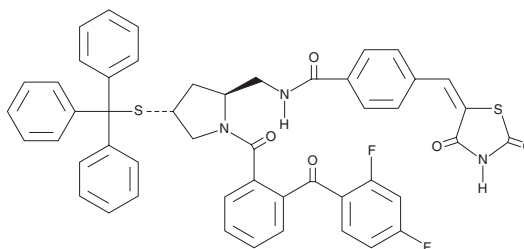
Product Information



Pyrrophenone

Item No. 13294

CAS Registry No.: 341973-06-6
Formal Name: N-[[[(2S,4R)-1-[2-(2,4-difluorobenzoyl)benzoyl]-4-[(triphenylmethyl)thio]-2-pyrrolidinyl]methyl]-4-[(Z)-(2,4-dioxo-5-thiazolidinylidene)methyl]-benzamide
MF: C₄₉H₃₇F₂N₃O₅S₂
FW: 850.0
Purity: ≥90%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that pyrrophenone be stored as supplied at -20°C. It should be stable for at least two years.

Pyrrophenone is supplied as a crystalline solid. A stock solution may be made by dissolving the pyrrophenone in the solvent of choice. Pyrrophenone is soluble in organic solvents such as DMSO and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of pyrrophenone in these solvents is approximately 15 mg/ml in DMSO and 12.5 mg/ml in DMF.

Pyrrophenone is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pyrrophenone should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Pyrrophenone has a solubility of approximately 0.1 mg/ml in a 1:10 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

The group IVA phospholipase A₂ (PLA₂), known as calcium-dependent cytosolic PLA₂ (cPLA₂), selectively releases arachidonic acid (AA) from membrane phospholipids, playing a central role in initiating the synthesis of prostaglandins (PGs) and leukotrienes (LTs).^{1,2} Pyrrophenone inhibits cPLA₂ with an IC₅₀ value of 4.2 nM in enzyme assays and potentially blocks the release of AA and the production of PGE₂ and LTC₄ in cells (IC₅₀ = 24, 25, and 14 nM, respectively).³ Its action is reversible and selective, as pyrrophenone inhibits the secretory type IB and IIA PLA₂s with more than a hundred-fold less potency.⁴ Pyrrophenone has also been shown to inhibit calcium ionophore (A23187)-stimulated AA release from monocytic cells, interleukin-1-induced PGE₂ synthesis in mesangial cells, and the production of PGE₂, LTs, and platelet-activating factor by human neutrophils, always with maximal inhibition at concentrations below 1 μM.^{4,5}

References

1. Ghosh, M., Stewart, A., Tucker, D.E., *et al. Am. J. Respir. Cell Mol. Biol.* **30**, 91-100 (2004).
2. Liberty, I.F., Raichel, L., Hazan-Eitan, Z., *et al. J. Leukoc. Biol.* **76**, 176-184 (2004).
3. Seno, K., Okuno, T., Nishi, K., *et al. Bioorg. Medicinal Chem. Letters* **11**, 587-590 (2001).
4. Ono, T., Yamada, K., Chikazawa, Y., *et al. Biochem. J.* **363**, 727-735 (2002).
5. Flamand, N., Picard, S., Lemieux, L., *et al. Brit. J Pharmacol.* **149**, 385-392 (2006).

Related Products

CAY10641 - Item No. 10662 • CAY10590 - Item No. 13181 • RSC-3388 - Item No. 13343 • Umbelliferyl Arachidonate - Item No. 62910 • Methyl Arachidonyl Fluorophosphonate - Item No. 70660 • cPLA₂ Assay Kit - Item No. 765021 • CAY10502 - Item No. 10008657

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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