

PRODUCT INFORMATION

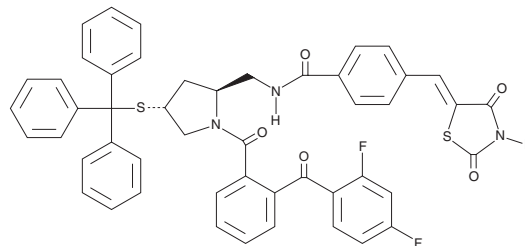


Pyrrophenone

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: ≥95%
UV/Vis.: λ_{max}: 332 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

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

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 DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

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

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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