Small Molecules

(±)-Flurbiprofen

PI3K/AKT pathway inhibitor; Inhibits COX-1 and COX-2

Catalog #	73922	1 g
	73924	5 g

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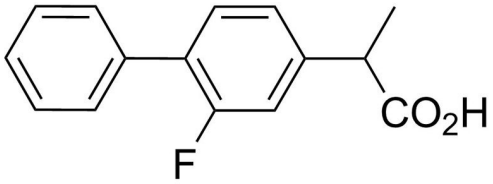
Product Description

(±)-Flurbiprofen is a cell-permeable and non-steroidal anti-inflammatory agent. It is a potent non-selective inhibitor of cyclooxygenase (COX) with EC_{50} = 0.1 and 0.4 µM for the inhibition of recombinant human COX-1 and COX-2, respectively (Gierse et al.).

Molecular Name:	(±)-Flurbiprofen
Alternative Names:	Ansaid
CAS Number:	5104-49-4
Chemical Formula:	$C_{15}H_{13}FO_2$
Molecular Weight:	244.3 g/mol
Purity:	≥ 99%
Chemical Name:	2-(3-fluoro-4-phenylphenyl)propanoic acid
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at room temperature (15 - 25°C) as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 400 mM · Absolute ethanol ≤ 400 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 4.09 mL of DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

MAINTENANCE AND SELF-RENEWAL
· Maintains self-renewal and pluripotency in human embryonic stem cells grown in conditions that induce differentiation (Bhanu et al.; Desbordes et al.).
CANCER RESEARCH
· Inhibits tumor growth in models of prostate cancer, familial adenomatous polyposis, and brain cancer (Grubbs et al.; King Jr & Khalili; Wechter et al.; Zemskova et al.).

References

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Gierse JK et al. (1995) Expression and selective inhibition of the constitutive and inducible forms of human cyclo-oxygenase. Biochem J: 479–84.
Grubbs CJ et al. (2000) Celecoxib inhibits N-Butyl-N-(4-hydroxybutyl)-nitrosamine-induced urinary bladder cancers in male B6D2F1 mice and female Fischer-344 rats. Cancer Res 60(20): 5599–602.
King JG Jr & Khalili K. (2001) Inhibition of human brain tumor cell growth by the anti-inflammatory drug, flurbiprofen. Oncogene 20(47): 6864–70.
Wechter WJ et al. (2000) E-7869 (R-Flurbiprofen) inhibits progression of prostate cancer in the TRAMP mouse. Cancer Res 60(8): 2203–8.
Zemskova M et al. (2006) Gene expression profiling in R-flurbiprofen-treated prostate cancer: R-Flurbiprofen regulates prostate stem cell antigen through activation of AKT kinase. Biochem Pharmacol 72(10): 1257–67.

Related Small Molecules

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This product is hazardous. Please refer to the Safety Data Sheet (SDS).