

Small Molecules

Indomethacin

Inhibits COX-1 and COX-2

Catalog # 73942

1 g



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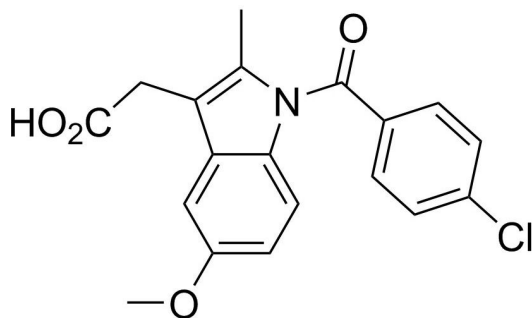
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Product Description

Indomethacin is a non-steroidal, anti-inflammatory agent that inhibits cyclooxygenase (COX) activity, thereby blocking the production of prostaglandins (Vane et al.). Indomethacin inhibits both COX-1 and COX-2 ($IC_{50} = 0.08$ and $0.96 \mu\text{M}$ for recombinant human COX-1 and COX-2, respectively; Kurumbail et al.).

Molecular Name:	Indomethacin
Alternative Names:	Indocin
CAS Number:	53-86-1
Chemical Formula:	$C_{19}H_{16}ClNO_4$
Molecular Weight:	357.8 g/mol
Purity:	$\geq 99\%$
Chemical Name:	2-[1-(4-chlorobenzoyl)-5-methoxy-2-methylindol-3-yl]acetic 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 ≤ 45 mM · Absolute ethanol ≤ 15 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 10 mg in 2.79 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

DIFFERENTIATION

- Activates peroxisome proliferator-activated receptor- γ (PPAR γ), a ligand-activated transcription factor known to play a pivotal role in adipogenesis (Lehmann et al.).
- Inhibits chondrogenic differentiation in ATDC5 cells and bone marrow stem cells (Caron et al.).

CANCER RESEARCH

- Inhibits growth of mouse mammary tumors (Fulton).
- Induces apoptosis in prostate and gastric cancer cells (Chiou et al.; Liu et al.).

References

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- Kurumbail RG et al. (1996) Structural basis for selective inhibition of cyclooxygenase-2 by anti-inflammatory agents. *Nature* 384(6610): 644–8.
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