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**Product Data Sheet**

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Product Name: N-(4-acetamidophenyl)-Indomethacin amide

Cat. No.: GC10611

**Chemical Properties**

Cas. No. 261766-23-8

Chemical Name N-(4-acetamidophenyl)-1-(4-chlorobenzoyl)-5-methoxy-2-methyl-1H-indole-3-acetamide

SMILES COc1ccc2c(c1)c(CC(=O)Nc1ccc(cc1)NC(=O)C)c(C)n2C(=O)c1ccc(Cl)cc1Formula  $C_{27}H_{24}ClN_3O_4$  M.Wt 490Solubility  $\leq 16\text{mg/ml}$  in DMSO;  $16\text{mg/ml}$  in dimethyl formamide Storage Store at  $-20^\circ\text{C}$ General tips For obtaining a higher solubility, please warm the tube at  $37^\circ\text{C}$  and shake it in the ultrasonic bath for a while. Stock solution can be stored below  $-20^\circ\text{C}$  for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure **Background**

N-(4-acetamidophenyl)-Indomethacin amide is a reversible, potent and selective COX-2 inhibitor [1].

Cyclooxygenase (COX) is an enzyme responsible for formation of prostanoids, including thromboxane and prostaglandins such as prostacyclin. COX-1 is the constitutive isoform and is mainly responsible for the synthesis of cytoprotective prostaglandins in the gastrointestinal tract (GI) and of the proaggregatory thromboxane in blood platelets. COX-2 is inducible and short-lived that is stimulated by endotoxin, cytokines, and mitogens. COX-2 plays important roles in prostaglandin biosynthesis in inflammatory cells the central nervous system [1].

N-(4-acetamidophenyl)-indomethacin amide (N-4-AIA) is a reversible, potent and selective COX-2 inhibitor that inhibits human recombinant COX-2 and ovine COX-1 with IC<sub>50</sub> values of 0.12 and  $>66\ \mu\text{M}$ , respectively. It is over 550 times less potent as an inhibitor of ovine COX-1. N-(4-acetamidophenyl)-indomethacin amide is the 4-

**Caution: Product has not been fully validated for medical applications. For research use only.**

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acetamidophenyl derivative of indomethacin that shows selective against COX-2 [1].

In the carageenan-induced foot pad edema assay, orally administration of N-4-AIA showed anti-inflammatory activity [1].

### Reference:

[1]. Kalgutkar AS, Marnett AB, Crews BC, et al. Ester and amide derivatives of the nonsteroidal antiinflammatory drug, indomethacin, as selective cyclooxygenase-2 inhibitors. J Med Chem. 2000 Jul 27;43(15):2860-70.

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