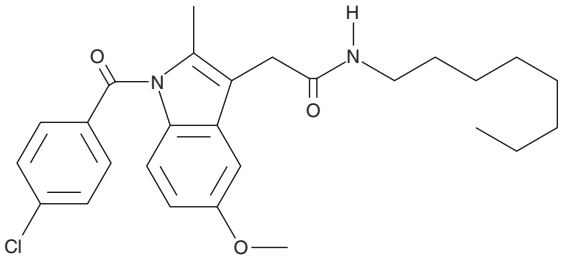
PRODUCT INFORMATION

Indomethacin N-octyl amide

Item No. 70273

CAS Registry No.:	282728-65-8
Formal Name:	N-octyl-1-(4-chlorobenzoyl)-5-methoxy-1H-indole-3-acetamide
MF:	$C_{27}H_{33}ClN_2O_3$
FW:	469.0
Purity:	≥98%
UV/Vis.:	λ_{max}: 230, 260, 319 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

Indomethacin N-octyl amide is supplied as a crystalline solid. A stock solution may be made by dissolving the indomethacin N-octyl amide in the solvent of choice, which should be purged with an inert gas. Indomethacin N-octyl amide is soluble in organic solvents such as ethanol and dimethyl formamide (DMF). The solubility of indomethacin N-octyl amide in these solvents is approximately 2 and 27 mg/ml, respectively.

Indomethacin N-octyl amide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, indomethacin N-octyl amide should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Indomethacin N-octyl amide has a solubility of approximately 8 mg/ml in a 5:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Indomethacin is a potent but non-selective inhibitor of both COX-1 and COX-2 in sheep and humans.[1] Structurally, indomethacin is a substituted indole acetic acid, wherein the carboxylate can be derivitized as an ester or amide. These derivatives show enhanced selectivity for the COX-2 isoform. For example, the IC_{50} values of indomethacin N-octyl amide for the inhibition of ovine COX-1 and human recombinant COX-2 are 66 µM and 40 nM, respectively, making it 1,650 times more potent as an inhibitor of COX-2 than COX-1.[2] While indomethacin itself has an IC_{50} of 0.05 µM for the inhibition of COX-2, it also inhibits COX-1 with a corresponding IC_{50} of 0.67 µM.

References

1. Barnett, J., Chow, J., Ives, D., *et al.* Purification, characterization and selective inhibition of human prostaglandin G/H synthase 1 and 2 expressed in the baculovirus system. *Biochim. Biophys. Acta* **1209(1)**, 130-139 (1994).
2. Kalgutkar, A.S., Marnett, A.B., Crews, B.C., *et al.* Ester and amide derivatives of the nonsteroidal antiinflammatory drug, indomethacin, as selective cyclooxygenase-2 inhibitors. *J. Med. Chem.* **43(15)**, 2860-2870 (2000).

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