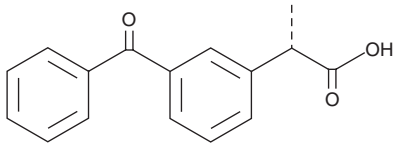
PRODUCT INFORMATION

(S)-Ketoprofen

Item No. 16407

CAS Registry No.:	22161-81-5
Formal Name:	3-benzoyl-αS-methyl-benzeneacetic acid
Synonyms:	(S)-2-(3-benzoylphenyl)Propionic Acid, Dexketoprofen
MF:	$C_{16}H_{14}O_3$
FW:	254.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 254 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

(S)-Ketoprofen is supplied as a crystalline solid. A stock solution may be made by dissolving the (S)-ketoprofen in the solvent of choice, which should be purged with an inert gas. (S)-Ketoprofen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (S)-ketoprofen in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of (S)-ketoprofen can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (S)-ketoprofen in PBS (pH 7.2) is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Ketoprofen (Item No. 10006661) is a non-selective, non-steroidal, anti-inflammatory drug exhibiting IC_{50} values of 0.5 and 2.33 µM for human recombinant COX-1 and COX-2 (Item No. 60122), respectively.[1] Ketoprofen is commonly used *in vivo* as a racemic mixture of (R)- and (S)-enantiomers. (S)-Ketoprofen is a potent inhibitor of COX-1 and COX-2 (IC_{50}s = 1.9 and 27 nM, respectively), whereas the (R)-enantiomer is 100 to 1,000 times less potent.[2,3] Notably, (S)-ketoprofen is known to be formed from the (R)-enantiomer in several animal species, except in humans and guinea pigs.{7889} Also, the pharmacokinetics of ketoprofen enantiomers and their glucuronide metabolites are altered in humans with rheumatoid arthritis or renal disease.[4,5]

References

1. Barnett, J., Chow, J., Ives, D., *et al. Biochim. Biophys. Acta* **1209(1)**, 130-139 (1994).
2. Palomer, A., Pérez, J.J., Navea, S., *et al. J. Med. Chem.* **43(11)**, 2280-2284 (2000).
3. Ghezzi, P., Melillo, G., Meazza, C., *et al. J. Pharmacol. Exp. Ther.* **287(3)**, 969-974 (1998).
4. Glówka, F., Karazniewicz-Lada, M., Grzeskowiak, E., et al. *Eur. J. Drug Metab. Pharmacokinet.* **36(3)**, 167-173 (2011).
5. Grubb, N.G., Rudy, D.W., Brater, D.C., *et al. Br. J. Clin. Pharmacol.* **48(4)**, 494-500 (1999).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM