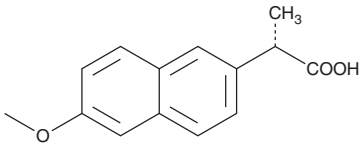
PRODUCT INFORMATION

(+)-Naproxen

Item No. 70290

CAS Registry No.:	22204-53-1
Formal Name:	(αS)-6-methoxy-α-methyl-2-naphthaleneacetic acid
Synonyms:	CG 3117, (S)-Naproxen
MF:	$C_{14}H_{14}O_3$
FW:	230.3
Purity:	≥99%
UV/Vis.:	λ_{max}: 232, 272 nm
Supplied as:	A crystalline solid
Storage:	Room temperature
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

(+)-Naproxen is supplied as a crystalline solid. A stock solution may be made by dissolving the (+)-naproxen in the solvent of choice, which should be purged with an inert gas. (+)-Naproxen is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of (+)-naproxen in these solvents is approximately 55, 24, and 25 mg/ml, respectively.

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 (+)-naproxen can be prepared by directly dissolving the crystalline in aqueous buffers. The solubility of (+)-naproxen in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(+)-Naproxen is a non-steroidal anti-inflammatory drug (NSAID) and COX inhibitor.[1] It inhibits COX-1 and COX-2 in COS-1 cells expressing the human enzymes (IC_{50}s = 4.8 and 28.4 µM, respectively). (+)-Naproxen inhibits thromboxane B_2 (TXB_2; Item No. 19030) and prostaglandin E_2 (PGE_2; Item No. 14010) production *ex vivo* in isolated rat blood (IC_{50}s = 5 and 13 µM, respectively).[2] Formulations containing (+)-naproxen have been used in the treatment of arthritis, osteoarthritis, gout, and ankylosing spondylitis.

References

1. Laneuville, O., Breuer, D.K., DeWitt, D.L., *et al.* Differential inhibition of human prostaglandin endoperoxide H synthases-1 and -2 by nonsteroidal anti-inflammatory drugs. *J. Pharmacol. Exp. Ther.* **271(2)**, 927-934 (1994).
2. Krekels, E.H.J., Angesjö, M., Sjögren, I., *et al.* Pharmacokinetic-pharmacodynamic modeling of the inhibitory effects of naproxen on the time-courses of inflammatory pain, fever, and the *ex vivo* synthesis of TXB_2 and PGE_2 in rats. *Pharm. Res.* **28(7)**, 1561-1576 (2011).

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