# **PRODUCT** INFORMATION



(+)-Naproxen

Item No. 70290

CAS Registry No.: Formal Name:	22204-53-1 ( $\alpha$ S)-6-methoxy- $\alpha$ -methyl-2-naphthaleneacetic acid	
Synonyms:	CG 3117, (S)-Naproxen	CH-
MF:	$C_{14}H_{14}O_{3}$	0.13
FW:	230.3	СООН
Purity:	≥99%	
UV/Vis.:	λ <sub>max</sub> : 232, 272 nm	
Supplied as:	A crystalline solid	0
Storage:	Room temperature	
Stability:	≥4 years	
Information represents the product expecifications. Batch expecific 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.<sup>1</sup> It inhibits COX-1 and COX-2 in COS-1 cells expressing the human enzymes (IC<sub>50</sub>s = 4.8 and 28.4  $\mu$ M, respectively). (+)-Naproxen inhibits thromboxane B<sub>2</sub> (TXB<sub>2</sub>; Item No. 19030) and prostaglandin E<sub>2</sub> (PGE<sub>2</sub>; Item No. 14010) production ex vivo in isolated rat blood ( $IC_{50}$ s = 5 and 13  $\mu$ M, respectively).<sup>2</sup> 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<sub>2</sub> and PGE<sub>2</sub> in rats. Pharm. Res. 28(7), 1561-1576 (2011).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

## SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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