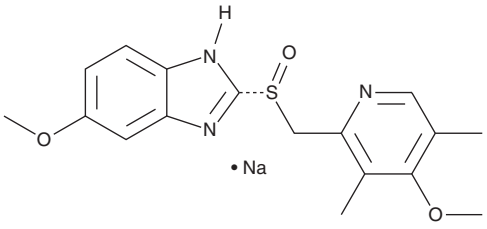
PRODUCT INFORMATION

(R)-Omeprazole (sodium salt)

Item No. 18874

CAS Registry No.:	161796-77-6
Formal Name:	6-methoxy-2-[(R)-[(4-methoxy-3,5-dimethyl-2-pyridinyl)methyl]sulfinyl]-1H-benzimidazole, monosodium salt
Synonyms:	(R)-OMEP, (R)-OMP, (R)-OMZ
MF:	$C_{17}H_{19}N_3O_3S \bullet Na$
FW:	368.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 302 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

(R)-Omeprazole (sodium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the (R)-omeprazole (sodium salt) in the solvent of choice, which should be purged with an inert gas. (R)-Omeprazole (sodium salt) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (R)-omeprazole (sodium salt) in ethanol is approximately 1 mg/ml and approximately 5 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 (R)-omeprazole (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (R)-omeprazole (sodium salt) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(R)-Omeprazole is an inhibitor of the gastric H^+/K^+ ATPase and an enantiomer of esomeprazole (Item No. 17303).[1] It inhibits acid secretion induced by histamine (Item No. 33828) in isolated rabbit gastric glands (IC_{50} = 781 µM) to a lesser extent than esomeprazole. (R)-Omeprazole (30 mg/kg) inhibits histamine-induced stomach acid secretions in rats.[2] Formulations containing (R)-omeprazole have been used in the treatment of duodenal and gastric ulcers, gastroesophageal reflux disease (GERD), and erosive esophagitis.

References

1. Erlandsson, P., Isaksson, R., Lorentzon, P., *et al.* Resolution of the enantiomers of omeprazole and some of its analogues by liquid chromatography on a trisphenylcarbamoylcellulose-based stationary phase. The effect of the enantiomers of omeprazole on gastric glands. *J. Chromatogr.* **532(2)**, 305-319 (1990).
2. Shin, J.M. and Sachs, G. Restoration of acid secretion following treatment with proton pump inhibitors. *Gastroenterology* **123(5)**, 1588-1597 (2002).

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