

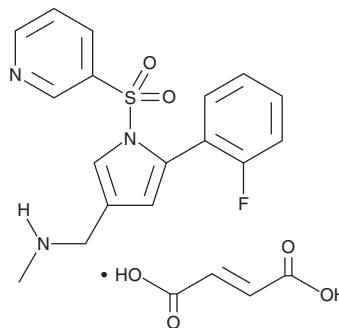
PRODUCT INFORMATION



Vonoprazan (fumarate)

Item No. 24200

CAS Registry No.: 881681-01-2
Formal Name: 5-(2-fluorophenyl)-N-methyl-1-(3-pyridinylsulfonyl)-1H-pyrrole-3-methanamine, 2-butenedioate
Synonyms: TAK-438
MF: C₁₇H₁₆FN₃O₂S • C₄H₄O₄
FW: 461.5
Purity: ≥98%
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

Vonoprazan (fumarate) is supplied as a crystalline solid. A stock solution may be made by dissolving the vonoprazan (fumarate) in the solvent of choice. Vonoprazan (fumarate) is soluble in the organic solvent DMSO, which should be purged with an inert gas.

Description

Vonoprazan is a selective, reversible, and potassium-competitive proton pump inhibitor that inhibits gastric H⁺/K⁺ ATPase (IC₅₀ = 17 nM) but does not inhibit porcine Na⁺/K⁺ ATPase activity when used at a concentration of 10 μM.^{1,2} It maintains its inhibitory effect in both weakly acidic (pH 6.5) and neutral (pH 7.5) conditions with IC₅₀ values of 19 and 28 nM, respectively. *In vivo*, vonoprazan (1, 2, and 4 mg/kg) inhibits histamine-stimulated acid secretion in a dose-dependent manner in rats, with complete inhibition when administered at a dose of 4 mg/kg.³ It also inhibits acid secretion for more than 48 hours in dogs when administered at doses ranging from 0.1 to 1 mg/kg.

References

1. Shin, J.M., Inatomi, N., Munson, K., *et al.* Characterization of a novel potassium-competitive acid blocker of the gastric H,K-ATPase, 1-[5-(2-fluorophenyl)-1-(pyridin-3-ylsulfonyl)-1H-pyrrol-3-yl]-N-methylmethanamine monofumarate (TAK-438). *J. Pharmacol. Exp. Ther.* **339**(2), 412-420 (2011).
2. Hori, Y., Imanishi, A., Matsukawa, J., *et al.* 1-[5-(2-Fluorophenyl)-1-(pyridin-3-ylsulfonyl)-1H-pyrrol-3-yl]-N-methylmethanamine monofumarate (TAK-438), a novel and potent potassium-competitive acid blocker for the treatment of acid-related diseases. *J. Pharmacol. Exp. Ther.* **335**(1), 231-238 (2010).
3. Hori, Y., Matsukawa, J., Takeuchi, T., *et al.* A study comparing the antisecretory effect of TAK-438, a novel potassium-competitive acid blocker, with lansoprazole in animals. *J. Pharmacol. Exp. Ther.* **337**(3), 797-804 (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.

WARRANTY AND LIMITATION OF REMEDY

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