# PRODUCT INFORMATION

## Famotidine

*Item No. 23828*

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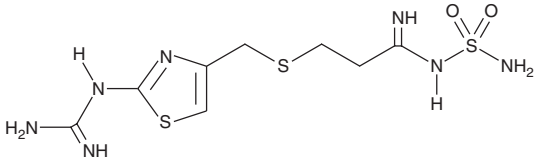
| **CAS Registry No.:** | 76824-35-6 |
| **Formal Name:** | 3-[[[2-[(aminoiminomethyl) amino]-4-thiazolyl]methyl]thio]-N-(aminosulfonyl)-propanimidamide |
| **Synonyms:** | MK-208, YM-11170 |
| **MF:** | $C_8H_{15}N_7O_2S_3$ |
| **FW:** | 337.5 |
| **Purity:** | ≥98% |
| **UV/Vis.:** | $\lambda_{max}$: 289 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

Famotidine is supplied as a crystalline solid. A stock solution may be made by dissolving the famotidine in the solvent of choice, which should be purged with an inert gas. Famotidine is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of famotidine in these solvents is approximately 30 mg/ml. Famotidine is slightly soluble in ethanol.

### Description

Famotidine is a histamine $H_2$ receptor antagonist with a $K_i$ value of 12 nM in fractionated guinea pig cerebral cortex membranes.[1] It is selective for $H_2$ over $H_1$ and muscarinic receptors ($K_i$s = 4 and 28 µM, respectively, in bovine cerebral cortex).[2] Famotidine inhibits histamine-induced acid secretion in isolated canine parietal cells ($IC_{50}$ = 0.6 µM).[3] It also suppresses histamine-induced gastric acid secretion in dogs when administered orally and in anesthetized rats when administered intraduodenally ($ID_{50}$s = 10 and 400 µg/kg, respectively).[3] Formulations containing famotidine have been used in the treatment of ulcers, gastroesophageal reflux disease (GERD), and heartburn, as well as to decrease the risk of gastrointestinal toxicity associated with non-steroidal anti-inflammatory drugs (NSAIDs).

### References


1. Gajtkowski, G.A., Norris, D.B., Rising, T.J., *et al*. Specific binding of $^3$H-tiotidine to histamine $H_2$ receptors in guinea pig cerebral cortex. *Nature* **304(5921)**, 65-67 (1983).
2. Kubo, N., Shirakawa, S., Kuno, T., *et al*. Antimuscarinic effects of antihistamines: Quantitative evaluation by receptor-binding assay. *Jpn. J. Pharmacol.* **43(3)**, 277-282 (1987).
3. Nagaya, H., Inatomi, N., and Satoh, H. Differences in the antisecretory actions of the proton pump inhibitor AG-1749 (lansoprazole) and the histamine $H_2$-receptor antagonist famotidine in rats and dogs. *Jpn. J. Pharmacol.* **55(4)**, 425-436 (1991).





**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