

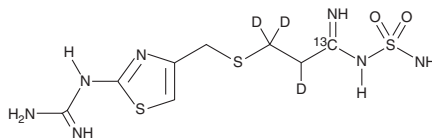
# PRODUCT INFORMATION



## Famotidine-<sup>13</sup>C-d<sub>3</sub>

Item No. 31493

**CAS Registry No.:** 2744683-81-4  
**Formal Name:** 3-[[[2-[(aminoiminomethyl)amino]-4-thiazolyl]methyl]thio]-N-(aminosulfonyl)propanimidamide-1-<sup>13</sup>C-2,3,3-d<sub>3</sub>  
**MF:** C<sub>7</sub>[<sup>13</sup>C]H<sub>12</sub>D<sub>3</sub>N<sub>7</sub>O<sub>2</sub>S<sub>3</sub>  
**FW:** 341.5  
**Chemical Purity:** ≥95% (Famotidine)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A 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-<sup>13</sup>C-d<sub>3</sub> is intended for use as an internal standard for the quantification of famotidine (Item No. 23828) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Famotidine-<sup>13</sup>C-d<sub>3</sub> is supplied as a solid. A stock solution may be made by dissolving the famotidine-<sup>13</sup>C-d<sub>3</sub> in the solvent of choice, which should be purged with an inert gas. Famotidine-<sup>13</sup>C-d<sub>3</sub> is soluble in methanol, DMSO, and dimethyl formamide.

### Description

Famotidine is a histamine H<sub>2</sub> receptor antagonist with a K<sub>i</sub> value of 12 nM in fractionated guinea pig cerebral cortex membranes.<sup>1</sup> It is selective for H<sub>2</sub> over H<sub>1</sub> and muscarinic receptors (K<sub>i</sub>s = 4 and 28 μM, respectively, in bovine cerebral cortex).<sup>2</sup> Famotidine inhibits histamine-induced acid secretion in isolated canine parietal cells (IC<sub>50</sub> = 0.6 μM).<sup>3</sup> It also suppresses histamine-induced gastric acid secretion in dogs when administered orally and in anesthetized rats when administered intraduodenally (ID<sub>50</sub>s = 10 and 400 μg/kg, respectively).<sup>3</sup> 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 <sup>3</sup>H-tiotidine to histamine H<sub>2</sub> 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<sub>2</sub>-receptor antagonist famotidine in rats and dogs. *Jpn. J. Pharmacol.* **55(4)**, 425-436 (1991).

#### 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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