



# SZABO SCANDIC

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## Produktinformation



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- Expressversand

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# PRODUCT INFORMATION



## Flumazenil-d<sub>5</sub> Item No. 28529

**Formal Name:** 8-fluoro-5,6-dihydro-5-methyl-6-oxo-4H-imidazo[1,5-a][1,4]benzodiazepine-3-carboxylic acid, ethyl-d<sub>5</sub> ester

**MF:** C<sub>15</sub>H<sub>9</sub>D<sub>5</sub>FN<sub>3</sub>O<sub>3</sub>

**FW:** 308.3

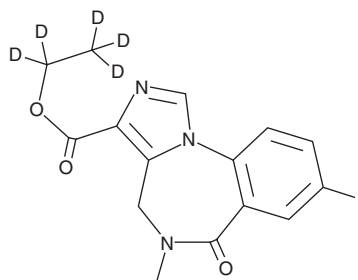
**Chemical Purity:** ≥98% (Flumazenil)

**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>5</sub>); ≤1% d<sub>0</sub>

**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Flumazenil-d<sub>5</sub> is intended for use as an internal standard for the quantification of flumazenil (Item No. 14252) 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).

Flumazenil-d<sub>5</sub> is supplied as a solid. A stock solution may be made by dissolving the flumazenil-d<sub>5</sub> in the solvent of choice, which should be purged with an inert gas. Flumazenil-d<sub>5</sub> is soluble in the organic solvent DMSO.

### Description

Flumazenil is a GABA<sub>A</sub> receptor antagonist (IC<sub>50</sub> = 2 nM in a radioligand binding assay using rat cortical synaptosomes).<sup>1</sup> Flumazenil also acts as a partial agonist of GABA<sub>A</sub> receptors, decreasing the amplitude of electrically stimulated population spikes in rat hippocampal CA1 pyramidal neurons.<sup>2</sup> It increases the number of entries into the open arms of the elevated plus maze in high-anxiety BALB/c, but not C57BL/6, mice when administered at doses ranging from 0.1 to 1,000 μg/kg.<sup>3</sup> Flumazenil (5 and 10 mg/kg) prevents a reduction in burying behavior induced by the GABA<sub>A</sub> receptor positive allosteric modulator allopregnanolone (Item No. 16930) in ovariectomized rats when administered at doses of 5 and 10 mg/kg.<sup>4</sup> Formulations containing flumazenil have been used to reverse sedation induced by benzodiazepines and in the treatment of benzodiazepine overdose or withdrawal.

### References

1. Möhler, H., Burkard, W.P., Keller, H.H., *et al.* Benzodiazepine antagonist Ro 15-1788: Binding characteristics and interaction with drug-induced changes in dopamine turnover and cerebellar cGMP levels. *J. Neurochem.* **37**(3), 714-722 (1981).
2. Buldalkova, S. and Weiss, M. Electrophysiological evidence for agonist properties of flumazenil, a benzodiazepine receptor antagonist, in rat hippocampus slices. *J. Neurol. Sci.* **149**(2), 121-126 (1997).
3. Belzung, C., Le Guisquet, A.M., and Crestani, F. Flumazenil induces benzodiazepine partial agonist-like effects in BALB/c but not C57BL/6 mice. *Psychopharmacol. (Berl)*. **148**(1), 24-32 (2000).
4. Fernández-Guasti, A. and Picazo, O. Flumazenil blocks the anxiolytic action of allopregnanolone. *Eur. J. Pharmacol.* **281**(1), 113-115 (1995).

#### 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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