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# Produktinformation

- Forschungsprodukte & Biochemikalien
- Zellkultur & Verbrauchsmaterial
- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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## Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

## Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand


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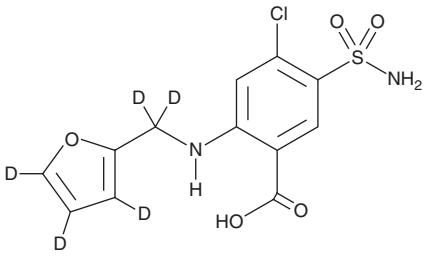
# PRODUCT INFORMATION

## Furosemide-$d_5$

*Item No. 31789*

| | |
|---|---|
| **CAS Registry No.:** | 1189482-35-6 |
| **Formal Name:** | 4-chloro-2-(((furan-2-yl-$d_3$)methyl-$d_2$)amino)-5-sulfamoylbenzoic acid |
| **Synonym:** | Frusemide-$d_5$ |
| **MF:** | $C_{12}H_6ClD_5N_2O_5S$ |
| **FW:** | 335.8 |
| **Chemical Purity:** | ≥98% (Furosemide) |
| **Deuterium Incorporation:** | ≥99% deuterated forms ($d_1$-$d_5$); ≤1% $d_0$ |
| **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

Furosemide-$d_5$ is intended for use as an internal standard for the quantification of furosemide (Item No. 17273) 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).

Furosemide-$d_5$ is supplied as a solid. A stock solution may be made by dissolving the furosemide-$d_5$ in the solvent of choice, which should be purged with an inert gas. Furosemide-$d_5$ is slightly soluble in methanol and chloroform.

### Description

Furosemide is a loop diuretic and an inhibitor of the $Na^+/K^+/2Cl^-$ (NKCC) cotransporters, NKCC1 and NKCC2 ($K_i$s = ~10 µM for both).[1,2] *In vivo*, furosemide (0.1 mg/kg, p.o.) increases diuresis in beagle dogs.[3] Furosemide (30 mg/kg) reduces ventricular collagen deposition and fibrosis in a rat model of dilated cardiomyopathy.[4] It is also an inhibitor of carbonic anhydrase I (CAI), CAII, and CAIII ($K_i$s = 0.052-0.065 µM) and organic ion transporter 1 (OAT1; $K_i$ = 9.5 µM), as well as a $GABA_A$ receptor antagonist.[5-7]

### References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3. Potter, B.M., Ames, M.K., Hess, A., *et al. J. Vet. Cardiol.* **26**, 51-62 (2019).
4. Watanabe, K., Sreedhar, R., Thandavarayan, R.A., *et al. Biofactors* **43(2)**, 187-194 (2017).
5. Temperini, C., Cecchi, A., Scozzafava, A., *et al. Bioorg. Med. Chem. Lett.* **18(8)**, 2567-2573 (2008).
6. Rajan, S.T., Kumar, M.K., and Ramakrishna, M. *MSN Laboratories*. **WO2014203278A3** (2014).
7. Siess, W., Siegel, F.L., and Lapetina, E.G. *Biochim. Biophys. Acta*. **801(2)**, 265-276 (1984).





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