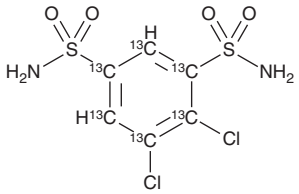
PRODUCT INFORMATION

Dichlorphenamide-$^{13}C_6$

Item No. 30719

CAS Registry No.: 1391054-76-4
Formal Name: 4,5-dichlorobenzene-1,3-disulfonamide-1,2,3,4,5,6-$^{13}C_6$
Synonym: Diclofenamide-$^{13}C_6$
MF: $[^{13}C]_6H_6Cl_2N_2O_4S_2$
FW: 311.1
Chemical Purity: ≥98% (Dichlorphenamide)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_6); ≤1% d_0
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

Dichlorphenamide-$^{13}C_6$ is intended for use as an internal standard for the quantification of dichlorphenamide (Item No. 23658) 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).

Dichlorphenamide-$^{13}C_6$ is supplied as a solid. A stock solution may be made by dissolving the dichlorphenamide-$^{13}C_6$ in the solvent of choice, which should be purged with an inert gas. Dichlorphenamide-$^{13}C_6$ is slightly soluble in chloroform and DMSO.

Description

Dichlorphenamide is a sulfonamide and an orally bioavailable carbonic anhydrase (CA) inhibitor (K_is = 1.20, 38, 50, and 50 nM for the human CA isoforms CAI, CAII, CAIX, and CAXII, respectively).[1] It lowers intraocular pressure in rabbits when 50 µl of a 10% solution is applied topically to the eye.[2] Dichlorphenamide rescues the potassium deficiency and prevents insulin-induced paralysis in a rat model of familial hypokalemic periodic paralysis when administered at a dose of 5.6 mg/kg per day for ten days.[3] Formulations containing dichlorphenamide have been used in the treatment of glaucoma and primary periodic paralysis.

References

1. Brzozowski, Z., Slawiński, J., Innocenti, A., *et al.* Carbonic anhydrase inhibitors. Regioselective synthesis of novel 1-substituted 1,4-dihydro-4-oxo-3-pyridinesulfonamides and their inhibition of the human cytosolic isozymes I and II and transmembrane cancer-associated isozymes IX and XII. *Eur. J. Med. Chem.* **45(9)**, 3656-3661 (2010).
2. Lotti, V.J., Schmitt, C.J., and Gautheron, P.D. Topical ocular hypotensive activity and ocular penetration of dichlorphenamide sodium in rabbits. *Graefes Arch. Clin. Exp. Ophthalmol.* **222(1)**, 13-19 (1984).
3. Tricarico, D., Mele, A., and Conte Camerino, D. Carbonic anhydrase inhibitors ameliorate the symptoms of hypokalaemic periodic paralysis in rats by opening the muscular Ca^{2+}-activated-K^+ channels. *Neuromuscul. Disord.* **16(1)**, 39-45 (2006).

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