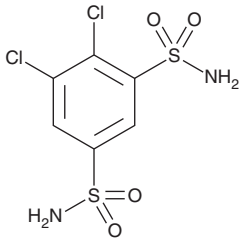
PRODUCT INFORMATION

Dichlorphenamide

Item No. 23658

CAS Registry No.:	120-97-8
Formal Name:	4,5-dichloro-1,3-benzenedisulfonamide
Synonym:	Diclofenamide
MF:	$C_6H_6Cl_2N_2O_4S_2$
FW:	305.2
Purity:	≥98%
UV/Vis.:	λ_{max}: 213 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

Dichlorphenamide is supplied as a crystalline solid. A stock solution may be made by dissolving the dichlorphenamide in the solvent of choice, which should be purged with an inert gas. Dichlorphenamide is soluble in organic solvents such as methanol 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., Slawiǹski, 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(2)**, 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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