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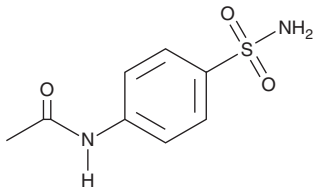
PRODUCT INFORMATION

4-Acetamidobenzenesulfonamide

Item No. 34689

CAS Registry No.: 121-61-9
Formal Name: N-[4-(aminosulfonyl)phenyl]-acetamide
Synonyms: APAS, N-Acetyl *p*-Aminobenzene Sulfonamide, N^4-Acetyl Sulfanilamide, N-Acetylsulfanilamide, NSC 217, NSC 406839
MF: $C_8H_{10}N_2O_3S$
FW: 214.2
Purity: ≥98%
UV/Vis.: λ_{max}: 261 nm
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

4-Acetamidobenzenesulfonamide is supplied as a solid. A stock solution may be made by dissolving the 4-acetamidobenzenesulfonamide in the solvent of choice, which should be purged with an inert gas. 4-Acetamidobenzenesulfonamide is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 4-acetamidobenzenesulfonamide in these solvents is approximately 30 mg/ml.

4-Acetamidobenzenesulfonamide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 4-acetamidobenzenesulfonamide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 4-Acetamidobenzenesulfonamide has a solubility of approximately 0.09 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

4-Acetamidobenzenesulfonamide is a metabolite of the herbicide asulam and the sulfonamide antibiotic sulfanilamide (Item No. 23723).[1-3] It is formed from asulam by conversion to sulfanilamide *via* intestinal microflora, followed by N^4-acetylation in the liver. 4-Acetamidobenzenesulfonamide inhibits carbonic anhydrase II (CAII), CAIX, and CAXII (K_is = 246, 135, and 49 nM, respectively, for the human enzymes).[4] It has also been used in the synthesis of compounds with antibacterial activity.[5]

References

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2. Okumura, F., Ueda, O., Kitamura, S., *et al.* N-acetylation and N-formylation of carcinogenic arylamines and related compounds in dogs. *Carcinogenesis* **16(1)**, 71-76 (1995).
3. Olsen, H. and Mørland, J. Sulfonamide acetylation in isolated rat liver cells. *Acta Pharmacol. Toxicol. (Copenh)* **49(2)**, 102-109 (1981).
4. Ozensoy, O., Puccetti, L., Fasolis, G., *et al.* Carbonic anhydrase inhibitors: Inhibition of the tumor-associated isozymes IX and XII with a library of aromatic and heteroaromatic sulfonamides. *Bioorg. Med. Chem. Lett.* **15(21)**, 4862-4866 (2005).
5. Wang, X.-L., Wan, K., and Zhou, C.-H. Synthesis of novel sulfanilamide-derived 1,2,3-triazoles and their evaluation for antibacterial and antifungal activities. *Eur. J. Med. Chem.* **45(10)**, 4631-4639 (2010).

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