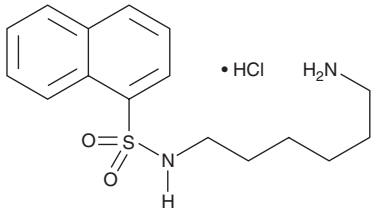
PRODUCT INFORMATION

W-5 (hydrochloride)

Item No. 14271

CAS Registry No.: 61714-25-8
Formal Name: N-(6-aminohexyl)-1-naphthalenesulfonamide, monohydrochloride
MF: $C_{16}H_{22}N_2O_2S \bullet HCl$
FW: 342.9
Purity: ≥98%
UV/Vis.: λ_{max}: 223, 289 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: As supplied, 2 years from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

W-5 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the W-5 (hydrochloride) in the solvent of choice. W-5 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of W-5 (hydrochloride) in ethanol is approximately 0.33 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of W-5 (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of W-5 (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

W-5 is a chlorine-deficient analog of W-7 (Item No. 14826), a calmodulin antagonist that binds to calmodulin and inhibits Ca^{2+}/calmodulin-regulated enzyme activities (K_i = 11 µM).[1,2] W-5 is less active than its calmodulin antagonist counterpart, inhibiting CHO-K1, MCF-7 breast cancer, and human myeloid progenitor cell proliferation with IC_{50} values greater than 100 µM.[1,3,4] As a weaker antagonist for calmodulin, W-5 is suitable for use as a control compound for understanding the specificity of other calmodulin antagonists.

References

1. Hidaka, H., Sasaki, Y., Tanaka, T., *et al*. N-(6-aminohexyl)-5-chloro-1-naphthalenesulfonamide, a calmodulin antagonist, inhibits cell proliferation. *Proc. Natl. Acad. Sci. USA* **78(7)**, 4354-4357 (1981).
2. Tanaka, T. and Hidaka, H. Hydrophobic regions function in calmodulin-enzyme(s) interactions. *J. Biol. Chem.* **255(23)**, 11078-11080 (1980).
3. Gulino, A., Barrera, G., Vacca, A., *et al*. Calmodulin antagonism and growth-inhibiting activity of triphenylethylene antiestrogens in MCF-7 human breast cancer cells. *Cancer Res.* **46**, 6274-6278 (1986).
4. Katayama, N., Nishikawa, M., Komada, F., *et al*. A role for calmodulin in the growth of human hematopoietic progenitor cells. *Blood* **75(7)**, 1446-1454 (1990).

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