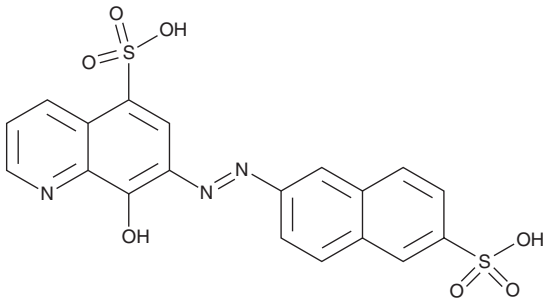
PRODUCT INFORMATION

NSC 87877

Item No. 14908

CAS Registry No.:	56990-57-9
Formal Name:	8-hydroxy-7-[2-(6-sulfo-2-naphthalenyl)diazenyl]-5-quinolinesulfonic acid
MF:	$C_{19}H_{13}N_3O_7S_2$
FW:	459.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 220, 341, 534 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

NSC 87877 is supplied as a crystalline solid. A stock solution may be made by dissolving the NSC 87877 in the solvent of choice, which should be purged with an inert gas. NSC 87877 is soluble in the organic solvent DMSO at a concentration of approximately 2 mg/ml.

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 NSC 87877 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of NSC 87877 in PBS (pH 7.2) is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The Src homology region 2 domain-containing phosphatases (SHP) known as SHP-1 and SHP-2 act downstream of receptor and non-receptor tyrosine kinase to modulate signal transduction.[1] NSC 87877 is a cell-permeable, inhibitor of both SHP-1 and SHP-2 (IC_{50} = 355 and 318 nM, respectively).[1] It is much less effective against other protein tyrosine phosphatases and the dual-specificity phosphatase 26.[1,2] Through its effects on SHP-1 or SHP-2, NSC 87877 blocks epidermal growth factor receptor-induced activation of Ras and ERK1/2 in HEK293 cells, stimulates store-operated calcium entry in response to thrombin in platelets, and increased acetylcholine receptor clustering in myotubes.[1,3,4]

References

1. Chen, L., Sung, S.S., Yip, M.L.R., *et al.* Discovery of a novel Shp2 protein tyrosine phosphatase inhibitor. *Mol. Pharmacol.* **70(2)**, 562-570 (2006).
2. Song, M., Park, J.E., Park, S.G., *et al.* NSC-87877, inhibitor of SHP-1/2 PTPs, inhibits dual-specificity phosphatase 26 (DUSP26). *Biochem. Biophys. Res. Commun.* **381(4)**, 491-495 (2009).
3. Redondo, P.C., Harper, A.G.S., Harper, M.T., *et al.* hTRPC1-associated α-actinin, and not hTRPC1 itself, is tyrosine phosphorylated during human platelet activation. *J. Thromb. Haemost.* **5(12)**, 2478-2483 (2007).
4. Zhao, X.T., Qian, Y.K., Chan, A.W.S., *et al.* Regulation of ACh receptor clustering by the tyrosine phosphatase Shp2. *Dev. Neurobiol.* **67(13)**, 1789-1801 (2007).

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