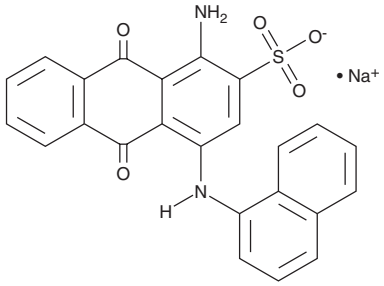
PRODUCT INFORMATION

PSB-06126

Item No. 42173

CAS Registry No.:	1052089-16-3
Formal Name:	1-amino-9,10-dihydro-4-(1-naphthalenylamino)-9,10-dioxo-2-anthracenesulfonic acid, monosodium salt
MF:	$C_{24}H_{15}N_2O_5S \bullet Na$
FW:	466.4
Purity:	≥95%
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

PSB-06126 is supplied as a solid. A stock solution may be made by dissolving the PSB-06126 in the solvent of choice, which should be purged with an inert gas. PSB-06126 is soluble in organic solvents such as ethanol and DMSO. PSB-06126 is sparingly soluble (1-10 mg/ml) in ethanol and souble (≥10 mg/ml) in DMSO.

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 PSB-06126 can be prepared by directly dissolving the solid in aqueous buffers. PSB-06126 is slightly soluble (0.1-1 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

PSB-06126 is an inhibitor of nucleoside triphosphate diphosphorylase 3 (NTPDase 3; IC_{50} = 1.5 µM for the rat enzyme).[1] It is selective for NTPDase 3 over NTPDase 1 and -2 at 1 mM. PSB-06126 also activates large-conductance calcium-activated potassium channels (K_{Ca}/BK) in rabbit bladder smooth muscle preparations in an inside/out patch-clamp assay (EC_{50} = 0.841 µM) and inhibits UTP-induced calcium mobilization in 1321N1 astrocytoma cells expressing the human purinergic $P2Y_4$ receptor (IC_{50} = 7.72 µM).[2,3] It selectively increases extracellular ATP levels in isolated bone marrow-derived mesenchymal stem cells (BM-MSCs) isolated from postmenopausal women over those from young women when used at a concentration of 3 µM.[4] PSB-06126 increases matrix mineralization in primary postmenopausal women BM-MSCs.

References

1. Baqi, Y., Weyler, S., Iqbal, J., *et al.* Structure-activity relationships of anthraquinone derivatives derived from bromaminic acid as inhibitors of ectonucleoside triphosphate diphosphohydrolases (E-NTPDases). *Purinergic Signal.* **5(1),** 91-106 (2009).
2. Roy, S., Large, R.J., Akande, A.M., *et al.* Development of GoSlo-SR-5-69, a potent activator of large conductance Ca^{2+}-activated K^+ (BK) channels. *Eur. J. Med. Chem.* **75,** 426-437 (2014).
3. Rafehi, M., Malik, E.M., Neumann, A., *et al.* Development of potent and selective antagonists for the UTP-activated $P2Y_4$ receptor. *J. Med. Chem.* **60(7),** 3020-3038 (2017).
4. Noronha-Matos, J.B., Pinto-Cardoso, R., Bessa-Andrês, C., *et al.* Silencing NTPDase3 activity rehabilitates the osteogenic commitment of post-menopausal stem cell bone progenitors. *Stem Cell Res. Ther.* **14(1),** 97 (2023).

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