

Small Molecules

Suramin

Tyrosine kinase inhibitor and epigenetic modifier; Inhibits PDGF, FGF, EGF, TGF β , SIRT1, and SIRT5

Catalog # 73872
73874

100 mg
500 mg



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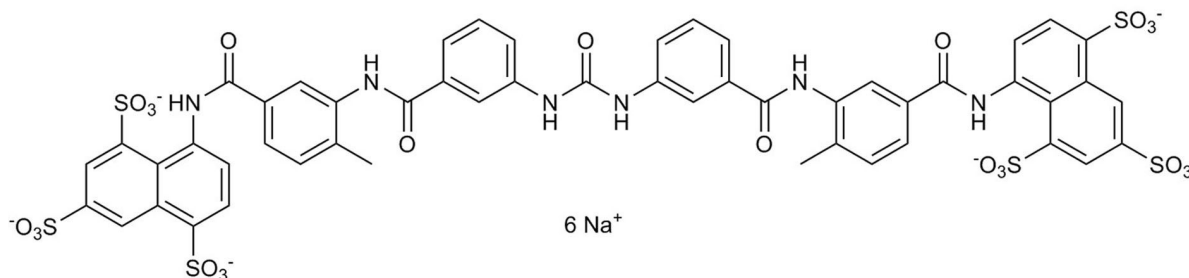
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Product Description

Suramin is a bis-polysulfonated naphthylurea that can bind to and inhibit PDGF, FGF, EGF, TGF- β , SIRT1, and SIRT5 (Stein). Suramin also blocks G protein binding to G protein-coupled receptors (GPCRs), inhibits the binding of calmodulin to recognition sites on the ryanodine receptor-1 ($IC_{50} = 4.9 \mu M$), and non-selectively antagonizes P2X and P2Y purinergic receptors (10 - 100 μM ; Klinger et al.; Charlton et al.). This product is supplied as the sodium salt of the molecule.

Molecular Name:	Suramin (Sodium Salt)
Alternative Names:	BAY 205; Germanin; NF 060
CAS Number:	129-46-4
Chemical Formula:	$C_{51}H_{34}N_6O_{23}S_6 \cdot 6Na$
Molecular Weight:	1429.1 g/mol
Purity:	$\geq 98\%$
Chemical Name:	8,8'-[carbonylbis[imino-3,1-phenylenecarbonylimino(4-methyl-3,1-phenylene)carbonylimino]]bis-1,3,5-naphthalenetrisulfonic acid, hexasodium salt

Structure:



Properties

Physical Appearance:	A white to off-white solid
Storage:	Product stable at room temperature as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	· Water ≤ 100 mM For example, to prepare a 10 mM stock solution in water, resuspend 10 mg in 700 μL of water.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in water at $-20^{\circ}C$. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use.

Published Applications

DISEASE MODELING

- Attenuates fibrosis in limb muscles in mouse model of Duchenne's muscular dystrophy (Taniguti et al.).

CANCER RESEARCH

- Inhibits angiogenesis and growth of various tumors and human cancer cell lines (McGeary et al.; Zaniboni; Stein).

IMMUNOLOGY

- Competitive inhibitor of reverse transcriptase and protects T lymphocytes against human immunodeficiency virus (HIV) infection in vitro (Carteau et al.).
- Kills human African trypanosomiasis parasites, potentially through preferential binding to parasite glycolytic enzymes (Fairlamb & Bowman; Barrett et al.).

References

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- Fairlamb AH & Bowman IB. (1980) Uptake of the trypanocidal drug suramin by bloodstream forms of *Trypanosoma brucei* and its effect on respiration and growth rate in vivo. *Mol Biochem Parasitol* 1(6): 315–33.
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- Taniguti APT et al. (2011) Prevention of muscle fibrosis and myonecrosis in mdx mice by suramin, a TGF- β 1 blocker. *Muscle Nerve* 43(1): 82–7.
- Zaniboni A. (1990) Suramin: the discovery of an old anticancer drug. *Med Oncol Tumor Pharmacother* 7(4): 287–90.

Related Small Molecules

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