

# Small Molecules

## Suramin

Tryosine kinase inhibitor and epigenetic modifier; Inhibits PDGF, FGF, EGF, TGF $\beta$ , SIRT1, and SIRT5

Catalog # 73872

100 mg



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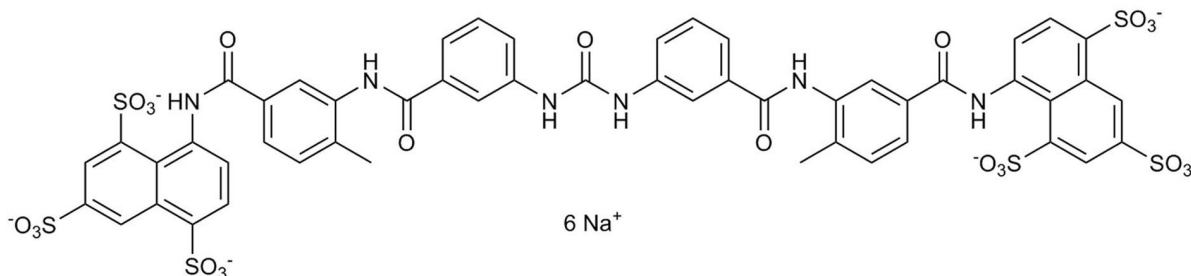
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## Product Description

Suramin is a bis-polysulfonated naphthylurea that can bind to and inhibit PDGF, FGF, EGF, TGF- $\beta$ , 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  $\mu M$ ; 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 crystalline solid
Storage:	Product stable at room temperature (15 - 25°C) 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 $\leq 100$ mM For example, to prepare a 10 mM stock solution in water, resuspend 10 mg in 700 $\mu L$ 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°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 (McGreary 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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- Taniguti APT et al. (2011) Prevention of muscle fibrosis and myonecrosis in mdx mice by suramin, a TGF- $\beta$ 1 blocker. *Muscle Nerve* 43(1): 82–7.
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