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Product Information

Sodium selenite
BioReagent, suitable for cell culture

Catalog Number **S5261**
Storage at Room Temperature

CAS RN 10102-18-8
Synonym: selenious acid, sodium salt

Product Description

Molecular Formula: Na_2SeO_3
Molecular Weight: 172.94

This product is cell culture tested (0.005 mg/L) and is appropriate for use in cell culture applications.

Sodium selenite is commonly used as a source of selenium in biological research, where selenium is an essential trace element that is normally provided by serum. Selenium is present in selenoproteins such as glutathione peroxidase and thioredoxin reductase, which contain the selenium analog of cysteine, selenocysteine. In particular, glutathione peroxidase has a role in detoxification *in vivo* as a scavenger of peroxides.[1,2] Sodium selenite is included in medium supplements for use in cell culture (Catalog Numbers I1884 and S5666).

Sodium selenite has been utilized in studies of cell proliferation and cancer research.[3,4] It has been used to alter gene expression in HepG2 cells as analyzed by cDNA microarrays.[5] Sodium selenite can inhibit zinc finger protein/DNA interactions.[6] Sodium selenite has been shown to alter mitochondrial membrane potentials and thus potentially contribute to apoptosis.[7,8]

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

This product is soluble in water (50 mg/ml), yielding a clear to very slightly hazy, colorless solution.

Storage/Stability

Stock solutions of sodium selenite may be frozen. Working aliquots remain active for 30 days at 2–8 °C.

References

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4. Sinha, R. et al., Organic and inorganic selenium compounds inhibit mouse mammary cell growth *in vitro* by different cellular pathways. Cancer Lett., **107(2)**, 277-284 (1996).
5. Morgan, K.T. et al., Application of cDNA microarray technology to *in vitro* toxicology and the selection of genes for a real-time RT-PCR-based screen for oxidative stress in Hep-G2 cells. Toxicol. Pathol., **30(4)**, 435-451 (2002).
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7. Kim, T.S. et al., Dysfunction of rat liver mitochondria by selenite: induction of mitochondrial permeability transition through thiol-oxidation. Biochem. Biophys. Res. Commun., **294(5)**, 1130-1137 (2002).
8. Shilo, S. et al., Selenite sensitizes mitochondrial permeability transition pore opening *in vitro* and *in vivo*: a possible mechanism for chemo-protection. Biochem. J., **370(Pt 1)**, 283-290 (2003).

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