



Hydroxy C60

Pharma/Biotech

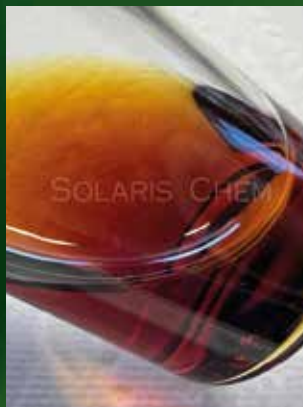
Water soluble

Description

NEUROBIUM HYDROXY Fullerenol C60 is a water-soluble research-grade derivative of fullerene C60 with formula C60(OH)_n. Hydroxylation of C60, makes it highly soluble in aqueous media, enabling its use in biological systems, neurodegenerative disease models, oxidative stress assays, and nanomedicine. It maintains a strong radical-scavenging capacity and mimics SOD activity for targeted neuro- and organ protection. ^{2,7,8}

Key Research Applications :

- **Aqueous Neuroprotection:** Fullerenol nanoparticles reduce oxidative stress and inhibit neuronal apoptosis in biological models. ^{2,7,9}
- **Organ Protection:** Studied for protective properties against toxicity in cardiotoxicity, hepatotoxicity, and nephrotoxicity models. ^{4,6,9}
- **Solvent-Free Synthesis:** Produced via a Solaris Chem proprietary solvent-free synthetic method, resulting in a pristine material free of solvents.



References

1. Hurmach, V. V.; et al. Anticoronavirus activity of C60 fullerene: In silico and in vitro screening. *Nano Biomed. Eng.* 2024, 16 (1), 45–58.
2. Du, J.; et al. Distinctive Effects of Fullerene C60 and Fullerenol C60(OH), Nanoparticles on Behavioral Hallmarks of Alzheimer's Disease. *Int. J. Mol. Sci.* 2023, 24 (15), 12154.
3. Zhu, Y.; et al. Fullerene C60 Conjugate with Folic Acid for Targeted Delivery to Tumor Cells. *Pharmaceutics* 2023, 15 (3), 982.
4. Koushki, K.; et al. Radioprotective fullerene derivative to alleviate radiation-induced cardiovascular disease. *Proc. Am. Assoc. Cancer Res.* 2026, 86 (7_Suppl), Abstract nr 4626.
5. Popov, V. V.; et al. Fullerenol C60(OH)40 and Ectoine Protect Human Nasal Epithelial Cells Against SARS-CoV-2 Spike Protein. *Nanomaterials* 2024, 14 (2), 158.
6. Thompson, J. R.; et al. Effect of Fullerenol C60(OH)24 on the Viability and Metabolism of THP-1 Human Monocytic Leukemia Cells. *Toxicol. In Vitro* 2025, 102, 105782.
7. Injac, R.; et al. Neuroprotective potential of fullerenol nanoparticles. *Pharmacol. Rep.* 2011, 63 (1), 221–222.
8. Grębowski, J.; et al. Fullerenol C60(OH)36 Protects Antioxidant Enzymes against Oxidative Damage in Human Erythrocytes. *Antioxidants* 2022, 11 (9), 1754.



Neurobium Hydroxy C60 SOL5369YN

Available from g level (for R&D, Tech centers and universities) to kg level (for industrial developments).



PRODUCT SPECIFICATIONS

Grade 99.95% (SOL5369YN)

Solvent-free* 

*Optimized for high solubility in water and aqueous buffers.

**Purity preservation: Packed under inert medical nitrogen gas to inhibit oxidation.

***Synthesized via a Solvent-Free Method (A Solaris Chem Inc proprietary solvent-free synthetic method is used, resulting in a solvent free material).



Green chemistry



Environmentally friendly

SUSTAINABILITY is fundamental to our operations and serves as the driving force behind our growth. At Solaris Chem, we emphasize the principles of green chemistry, minimize waste, recover and recycle solvents and materials to the greatest extent possible, and utilise renewable hydroelectric energy to support our activities.

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Description

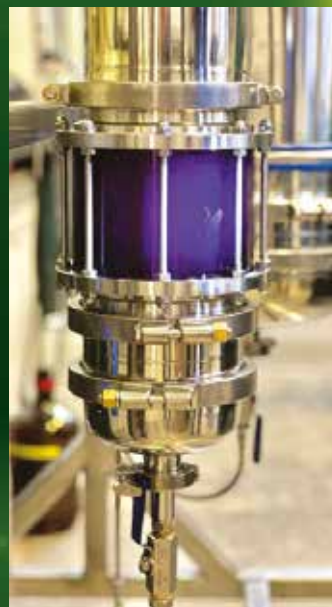
NEUROBIUM™ C60 is a specialized research-grade fullerene C60, designed for use in pharmaceutical and biotechnology studies. Featuring a distinctive hollow carbon cage, it serves as a multi-radical scavenger, effectively neutralizing both reactive oxygen and nitrogen species. It is engineered to imitate the function of natural antioxidant enzymes like superoxide dismutase (SOD).⁴

Key Research Applications

- **Neuroprotection:** Exhibits protective properties in neuronal models, helping to decrease apoptosis and reduce oxidative stress during neurodegenerative disease investigations.^{2,4}
- **Oxidative Stress Modulation:** Research shows C60 can lower oxidative damage and prevent lipid peroxidation, making it significant for cardiovascular, renal, and hepatic research.⁴
- **Drug Delivery Nanocarriers:** Thanks to their spherical shape and ability to be functionalized, C60 molecules can be linked to drugs, peptides, or nucleic acids to facilitate targeted delivery.^{3,5}
- **Anti-viral and Anti-proliferative Studies:** Various fullerene derivatives are being explored for their potential to inhibit viral proteases and for their roles in oncology research.^{1,5}

References

1. Hurmach, V. V.; et al. Anticoronavirus activity of C60 fullerene: In silico and in vitro screening. *Nano Biomed. Eng.* 2024, 16 (1), 45–58.
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3. Zhu, Y.; et al. Fullerene C60 Conjugate with Folic Acid for Targeted Delivery to Tumor Cells. *Pharmaceutics* 2023, 15 (3), 982.
4. Gharbi, N.; et al. [60]Fullerene is a powerful antioxidant in vivo with no acute toxicity. *Toxicol. Lett.* 2005, 158 (3), 183–192.
5. Smith, A. B.; et al. Development of photoactive biomaterial using modified fullerene nanoparticles. *Front. Chem.* 2024, 12, 134567.




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Estimated time to dissolve/disperse in:
Toluene: Few seconds to few minutes (max 3 g/L).
o-DGB: Few seconds to few minutes (max 24 g/L).
Olive oil: 3-5 days (to 0.8-1g/L, vs 2 weeks for most common C60 powder).
 Estimated times provided as a guidelines only.



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