

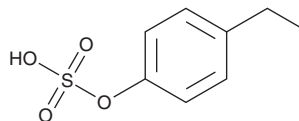
PRODUCT INFORMATION



4-Ethylphenyl Sulfate

Item No. 42654

CAS Registry No.: 85734-98-1
Formal Name: 4-ethyl-phenol 1-(hydrogen sulfate)
Synonyms: 4-EPS, 4-Ethylphenol Sulfate
MF: C₈H₁₀O₄S
FW: 202.2
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

4-Ethylphenyl sulfate is supplied as a solid. A stock solution may be made by dissolving the 4-ethylphenyl sulfate in the solvent of choice, which should be purged with an inert gas. 4-Ethylphenyl sulfate is soluble (≥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 4-ethylphenyl sulfate can be prepared by directly dissolving the solid in aqueous buffers. 4-Ethylphenyl sulfate is soluble (≥10 mg/ml) in PBS (pH 7.2). We do not recommend storing the aqueous solution for more than one day.

Description

4-Ethylphenyl sulfate is a gut microbiota-derived metabolite of tyrosine and a uremic toxin.^{1,2} It decreases the viability of HCT116 colon cancer cells when used at concentrations of 5 or 10 mM.³ 4-Ethylphenyl sulfate decreases the percentage of time spent in the open arms of the elevated plus maze in mice, indicating anxiety-like activity.¹ Plasma and liver levels of 4-ethylphenyl sulfate are increased in a rat model of chronic kidney disease induced by adenine (Item No. 18148).² Plasma levels of 4-ethylphenyl sulfate are also increased in patients with autism spectrum disorder.⁴

References

1. Needham, B.D., Funabashi, M., Adame, M.D., *et al.* A gut-derived metabolite alters brain activity and anxiety behaviour in mice. *Nature* **602(7898)**, 647-653 (2022).
2. Hartjes, E.D., Lim, Y.J., Velenosi, T.J., *et al.* The impact of progressive chronic kidney disease on hepatic drug metabolism. *Drug Metab. Dispos.* **53(6)**, 100085 (2025).
3. Jaiswal, J., Srivastav, A.K., Kushwaha, M., *et al.* Gut microbial metabolite 4-ethylphenylsulfate is selectively deleterious and anticancer to colon cancer cells. *J. Med. Chem.* **68(10)**, 10425-10438 (2025).
4. Needham, B.D., Adame, M.D., Serena, G., *et al.* Plasma and fecal metabolite profiles in autism spectrum disorder. *Biol. Psychiatry* **89(5)**, 451-462 (2021).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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