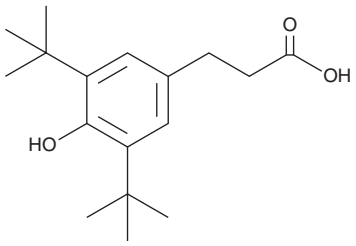
PRODUCT INFORMATION

3,5-Di-*tert*-butyl-4-hydroxyphenylpropionic Acid

Item No. 46171

CAS Registry No.: 20170-32-5
Formal Name: 3,5-*bis*(1,1-dimethylethyl)-4-hydroxy-benzenepropanoic acid
Synonyms: β-(4-Hydroxy-3,5-di-*tert*-butylphenyl)propionic Acid, Fenozan, Fenozan Acid, Phenozan
MF: $C_{17}H_{26}O_3$
FW: 278.4
Purity: ≥98%
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

3,5-Di-*tert*-butyl-4-hydroxyphenylpropionic acid is supplied as a solid. A stock solution may be made by dissolving the 3,5-di-*tert*-butyl-4-hydroxyphenylpropionic acid in the solvent of choice, which should be purged with an inert gas. 3,5-Di-*tert*-butyl-4-hydroxyphenylpropionic acid is soluble (≥10 mg/ml) in ethanol and DMSO.

Description

3,5-Di-*tert*-butyl-4-hydroxyphenylpropionic acid is a synthetic phenolic antioxidant (SPA) and an active metabolite of the SPAs AO1010 and AO1024.[1,2] It scavenges DPPH (Item No. 14805) radicals in a cell-free assay.[1] 3,5-Di-*tert*-butyl-4-hydroxyphenylpropionic acid has been used in the synthesis of β_3-adrenergic receptor agonists and neuronal nitric oxide synthase (nNOS) inhibitors.[3,4] It has been found in human urine and wastewater.[2,5]

References

1. Arefjev, D.V., Domnina, N.S., Komarova, E.A., *et al.* Sterically hindered phenol–dextran conjugates: Synthesis and radical scavenging activity. *Eur. Polym. J.* **35(2)**, 279-284 (1999).
2. Liu, R. and Mabury, S.A. Rat metabolism study suggests 3-(3,5-Di- tert-butyl-4-hydroxyphenyl)propionic acid as a potential urinary biomarker of human exposure to representative 3-(3,5-di- tert-butyl-4-hydroxyphenyl)propionate antioxidants. *Environ. Sci. Technol.* **55(20)**, 14051-14058 (2021).
3. Aubriot, S., Nicolle, E., Lattier, M., *et al.* New series of aryloxypropanolamines with both human beta(3)-adrenoceptor agonistic activity and free radical scavenging properties. *Bioorg. Med. Chem. Lett* **12(2)**, 209-212 (2002).
4. Auvin, S., Auguet, M., Navet, E., *et al.* Novel inhibitors of neuronal nitric oxide synthase with potent antioxidant properties. *Bioorg. Med. Chem. Lett.* **13(2)**, 209-212 (2003).
5. Meyer, C., Bär, M.L., and Hollender, J. Wastewater as a dual indicator of human and environmental exposure to synthetic antioxidants: Occurrence and fate in biological and advanced wastewater treatment. *Environ. Int.* **203**, 109709 (2025).

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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