

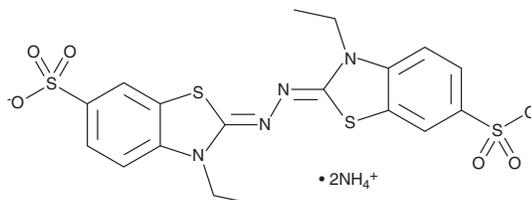
# PRODUCT INFORMATION



## ABTS (ammonium salt)

Item No. 27317

**CAS Registry No.:** 30931-67-0  
**Formal Name:** 2,2'-(1,2-hydrazinediylidene)bis[3-ethyl-2,3-dihydro-6-benzothiazolesulfonic acid, diammonium salt  
**MF:** C<sub>18</sub>H<sub>16</sub>N<sub>4</sub>O<sub>6</sub>S<sub>4</sub> • 2NH<sub>4</sub><sup>+</sup>  
**FW:** 548.7  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 224, 346 nm  
**Supplied as:** A crystalline 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

ABTS (ammonium salt) is supplied as a crystalline solid. A stock solution may be made by dissolving the ABTS (ammonium salt) in the solvent of choice, which should be purged with an inert gas. ABTS (ammonium salt) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of ABTS (ammonium salt) in these solvents is approximately 10 and 1 mg/ml, respectively.

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 ABTS (ammonium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of ABTS (ammonium salt) in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

ABTS is a radical cation and a substrate of peroxidases, including horseradish peroxidase (HRP).<sup>1</sup> It has commonly been used to assess antioxidant capacity in the Trolox equivalent antioxidant capacity (TEAC) assay.<sup>2,3</sup> It has a blue color in the presence of sodium persulfate or metmyoglobin but decolorizes upon incubation with antioxidants, and the antioxidant capacity can be determined spectrophotometrically. ABTS has also been used as an enzyme substrate in ELISAs.<sup>4,5</sup> Upon incubation with a peroxidase, it produces a soluble green product that can be quantified by colorimetric detection at 405 nm.<sup>1</sup>

### References

1. Bhattarai, H.D., Paudel, B., Lee, H.S., *et al.* Antioxidant activity of *Sanionia uncinata*, a polar moss species from King George Island, Antarctica. *Phytother. Res.* **22(12)**, 1635-1639 (2008).
2. Huang, D., Ou, B., and Prior, R.L. The chemistry behind antioxidant capacity assays. *J. Agric. Food Chem.* **53(6)**, 1841-1856 (2005).
3. Walker, R.B. and Everette, J.D. Comparative reaction rates of various antioxidants with ABTS radical cation. *J. Agric. Food Chem.* **57(4)**, 1156-1161 (2009).
4. Reyna-Bello, A., Eleizalde, M.C., and Silva, A.M. Assessment of chromogen suitability in ELISA for the detection of anaplasmosis and trypanosomosis. *J. Immunoassay Immunochem.* **28(1)**, 1-11 (2007).
5. Su, Y.C. and Wong, A.C. Detection of staphylococcal enterotoxin H by an enzyme-linked immunosorbent assay. *J. Food Prot.* **59(3)**, 327-330 (1996).

#### 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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