

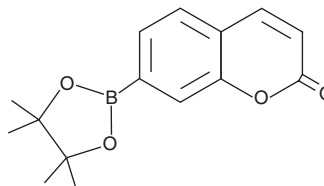
PRODUCT INFORMATION



Coumarin Boronic Acid pinacolate ester

Item No. 10818

CAS Registry No.: 190788-61-5
Formal Name: 7-(4,4,5,5-tetramethyl-1,3,2-dioxaborolan-2-yl)-2H-1-benzopyran-2-one
Synonyms: CBA pinacolate ester, CBE
MF: C₁₅H₁₇BO₄
FW: 272.1
Purity: ≥98%
UV/Vis.: λ_{max}: 280, 320 nm
Ex./Em. Max: 332/400 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Coumarin Boronic Acid (CBA) pinacolate ester is supplied as a crystalline solid. A stock solution may be made by dissolving the CBA pinacolate ester in the solvent of choice. CBA pinacolate ester is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of CBA pinacolate ester in these solvents is approximately 1, 3, and 11 mg/ml, respectively.

CBA pinacolate ester is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, CBA pinacolate ester should first be dissolved in DMF and then diluted with the aqueous buffer of choice. CBA pinacolate ester has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

CBE is a more soluble form of coumarin boronic acid (CBA; item no. 14051) that can be used to detect peroxynitrite (Item No. 81565), hypochlorous acid, and hydrogen peroxide.¹⁻⁴ Peroxynitrite oxidizes CBE into the fluorescent product 7-hydroxycoumarin (COH), which displays excitation/emission maxima of 332/470 nm, respectively.¹

References

1. Zielonka, J., Sikora, J., Joseph, J., *et al.* Peroxynitrite is the major species formed from different flux ratios of co-generated nitric oxide and superoxide. *J. Biol. Chem.* **285(19)**, 14210-6 (2010).
2. Zielonka, J., Sikora, A., Hardy, M., *et al.* Boronate probes as diagnostic tools for real time monitoring of peroxynitrite and hydroperoxides. *Chem. Res. Toxicol.* **25(9)**, 1793-1799 (2012).
3. Zielonka, J., Zielonka, M., Sikora, A., *et al.* Global profiling of reactive oxygen and nitrogen species in biological systems. *J. Biol. Chem.* **287(5)**, 2984-2995 (2012).
4. Du, L., Li, M., Zheng, S., *et al.* Rational design of a fluorescent hydrogen peroxide probe based on the umbelliferone fluorophore. *Tetrahedron Lett.* **49(19)**, 3045-3048 (2008).

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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