

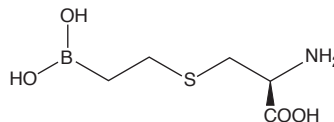
Product Information



BEC

Catalog No. 10170

CAS Registry No.: 63107-40-4
Formal Name: S-(2-boronoethyl)-L-cysteine
MF: C₅H₁₂BNO₄S
FW: 193.0
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that BEC be stored as supplied at -20°C. It will be stable for at least two years.

BEC is supplied as a crystalline solid. BEC is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that aqueous solutions of BEC be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of BEC in PBS, pH 7.2, is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

L-Arginine serves as a common substrate for both nitric oxide synthase (NOS) and arginase in the cell. NOS catalyzes the oxidation of arginine to citrulline and NO with N^ω-hydroxy-L-arginine (NOHA) formed as an intermediate. Arginase, on the other hand, catalyzes the hydrolysis of arginine into urea and L-ornithine. BEC is a potent slow-binding competitive inhibitor of recombinant rat liver arginase I with a K_i of 0.4-0.6 μM.¹ It is also a potent inhibitor of human arginase II with K_i values of 0.31 μM and 30 nM at pH 7.5 and 9.5, respectively.² It does not inhibit murine iNOS at concentrations up to 1 mM. BEC significantly enhances NO-dependent relaxation of human penile corpus cavernosum smooth muscle *in vitro* at concentrations between 0.1-1.0 mM.¹

References

1. Kim, N.N., Cox, J.D., Baggio, R.F., *et al.* Probing erectile function: S-(2-boronoethyl)-L-cysteine binds to arginase as a transition state analogue and enhances smooth muscle relaxation in human penile corpus cavernosum. *Biochemistry* **40**, 2678-2688 (2001).
2. Colleluori, D.M. and Ash, D.E. Classical and slow-binding inhibitors of human type II arginase. *Biochemistry* **40**, 9356-9362 (2001).

Related Products

L-NMMA (citrate) - Cat. No. 80200 • L-NAME (hydrochloride) - Cat. No. 80210 • L-NNA - Cat. No. 80220 • N^G,N^G-dimethyl-L-Arginine (dihydrochloride) - Cat. No. 80230 • N^ω-propyl-L-Arginine - Cat. No. 80587 • TRIM - Cat. No. 81310 • L-NMMA (acetate) - Cat. No. 10005031 • nor-NOHA - Cat. No. 10006861 • ABH - Cat. No. 10006862

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WARNING: THIS PRODUCT IS NOT INTENDED OR APPROVED FOR HUMAN OR VETERINARY USE. USE OF THIS PRODUCT FOR HUMAN OR ANIMAL TESTING IS EXTREMELY HAZARDOUS AND MAY RESULT IN DISEASE, SEVERE INJURY, OR DEATH.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent under separate cover to the MSDS supervisor at your institution.

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