

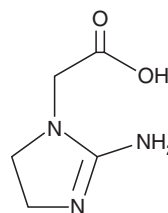
PRODUCT INFORMATION



Cyclocreatine

Item No. 20649

CAS Registry No.: 35404-50-3
Formal Name: 2-amino-4,5-dihydro-1H-imidazole-1-acetic
Synonyms: AM 285, 1-Carboxymethyl-2-iminoimidazolidine
MF: C₅H₉N₃O₂
FW: 143.1
Purity: ≥95%
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

Cyclocreatine is supplied as a crystalline solid. For biological experiments, we suggest that organic solvent-free aqueous solutions of cyclocreatine be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cyclocreatine in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Cyclocreatine is a planar creatine analog that can passively transit across membranes, including the blood brain barrier, and is phosphorylated and dephosphorylated by mitochondrial and cytosolic creatine kinase.^{1,2} Cyclocreatine can function as a phosphagen in mouse brain *in vivo* and has been used to reverse cognitive deficits in *Slc6a8*^{-/-} mice that lack a functional creatine transporter.³

References

1. McLaughlin, A. C. and Cohn, M. Specificity of creatine kinase for guanidino substrates. Kinetic and proton nuclear magnetic relaxation rate studies. *J. Biol. Chem.* **247**(13), 4382-4388 (1972).
2. Boehm, E. A., Radda, G.K., Tomlin, H. *et al.* The utilisation of creatine and its analogues by cytosolic and mitochondrial creatine kinase. *Biochim. Biophys. Acta* **1274**(3), 119-128 (1996).
3. Kurosawa, Y., DeGrauw, T.J., Lindquist, D.M., *et al.* Cyclocreatine treatment improves cognition in mice with creatine transporter deficiency. *J. Clin. Invest.* **122**(8), 2837-2846 (2012).

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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