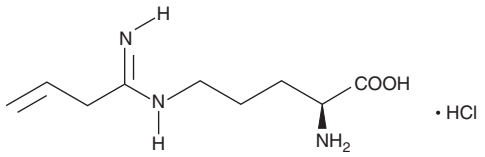
PRODUCT INFORMATION

Vinyl-L-NIO (hydrochloride)

Item No. 80330

CAS Registry No.: 728944-69-2
Formal Name: N^5-(1-imino-3-butenyl)-L-ornithine, monohydrochloride
MF: $C_9H_{17}N_3O_2$ • HCl
FW: 235.7
Purity: ≥95%
Supplied as: A film
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Vinyl-L-NIO (hydrochloride) is supplied as a film. A stock solution may be made by dissolving the vinyl-L-NIO (hydrochloride) in an organic solvent purged with an inert gas. Vinyl-L-NIO (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of vinyl-L-NIO (hydrochloride) in these solvents is approximately 30 mg/ml in ethanol and approximately 50 mg/ml in DMSO and DMF.

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 vinyl-L-NIO (hydrochloride) can be prepared by directly dissolving the film in aqueous buffers. The solubility of vinyl-L-NIO (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Vinyl-L-NIO is a potent, selective inhibitor of nNOS. The K_i values for inhibition of nNOS, eNOS, and iNOS by vinyl-L-NIO are 100 nM, 12 and 60 µM, respectively, as determined using initial rate measurements.[1] In the presence of NADPH and O_2, vinyl-L-NIO irreversibly inactivates nNOS with a k_{inact} of 0.078 min^{-1} and a K_i value of 90 nM. Vinyl-L-NIO does not inactivate iNOS. eNOS requires 20-fold higher concentrations of vinyl-L-NIO to obtain 75% the rate of inactivation seen with nNOS.[1]

Reference

1. Babu, B.R. and Griffith, O.W. N^5-(1-Imino-3-butenyl)-L-ornithine. A neuronal isoform selective mechanism-based inactivator of nitric oxide synthase. *J. Biol. Chem.* **273**, 8882-8889 (1998).

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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