

Product Data Sheet

Product Name: Carmustine-d8

Cat. No.: GC91899

Chemical Properties

Cas. No.

Chemical Name N,N'-bis(2-chloroethyl-d8)-N-nitroso-urea

SMILES ClC([2H])([2H])C([2H])([2H])NC(N(N=O)C([2H])([2H])C([2H])([2H])Cl)=O

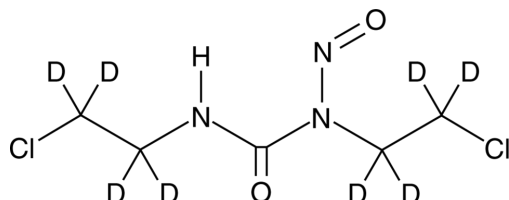
Formula $C_5H_8D_8Cl_2N_3O_2$ M.Wt 222.1

Solubility DMSO: soluble, Ethanol: soluble, Water: soluble Storage $-20^{\circ}C$

General tips For obtaining a higher solubility, please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Carmustine-d8 is intended for use as an internal standard for the quantification of carmustine by GC- or LC-MS. Carmustine is a DNA alkylating agent.^{1,2} It inhibits cell growth and induces cell cycle arrest at the G₂/M phase in C6 rat glioma cells when used at a concentration of 10^{-6} M.² *In vivo*, carmustine (0.3 and 6.7 mg/kg per day) reduces tumor growth in a C6 rat glioma model. Carmustine (0.5 mg/kg, i.p.) also reduces the number of amyloid- β plaques and brain levels of amyloid- β (1-40) (A β 40), as well as increases brain levels of soluble amyloid precursor protein (sAPP) in the APP/PS1 transgenic mouse model of Alzheimer's disease.³ Formulations containing carmustine have been used in the treatment of gliomas and glioblastomas.

Caution: Product has not been fully validated for medical applications. For research use only.

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References:

- [1]. Wasserman, T.H., Slavik, M., and Carter, S.K. Clinical comparison of the nitrosoureas. *Cancer* 36(4):1258-1268 (1975).
- [2]. Soma, M.R., Baetta, R., De Renzis, M.R., et al. In vivo enhanced antitumor activity of carmustine [N,N'-bis(2-chloroethyl)-N-nitrosourea] by simvastatin. *Cancer Res.* 55(3):597-602 (1995).
- [3]. Hayes, C.D., Dey, D., Palavicini, J.P., et al. Striking reduction of amyloid plaque burden in an Alzheimer's mouse model after chronic administration of carmustine. *BMC Med.* 11:181 (2013).

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