

Product Data Sheet

Product Name: Cucurbit[8]uril

Cat. No.: GC62913

Chemical Properties

Cas. No. 259886-51-6

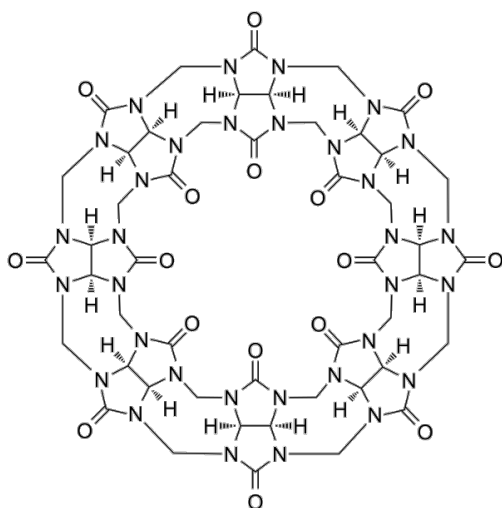
Formula $C_{48}H_{48}N_{32}O_{16}$ M.Wt 1329.1

Solubility DMSO : < 1 mg/mL (insoluble or slightly soluble) Storage 4°C, protect from light, stored under nitrogen

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°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

Cucurbit[8]uril is a potent, low toxicity and orally active supramolecular inducer of protein heterodimerization. Cucurbit[8]uril induces heterodimerization of methylviologen and naphthalene functionalized proteins. Cucurbit[8]uril can induce energy transfer [1][2].

Cucurbit[8]uril (0~20 μM; 48 hours; CHO-K1 cells) makes the relative cell viability dropped marginally

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

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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to 86%[2]. Cucurbit[8]uril indeed selectively induces the heterodimerization of MV-eYFP with Np-eCFP. Cucurbit[8]uril-induced high energy transfer between the proteins is only observed in the presence of all three supramolecular components, allowing the formation of the ternary complex. In the presence of Cucurbit[8]uril, the unspecific protein assembly induced by the methylviologen is inhibited. The ternary system of Cucurbit[8]uril with methylviologen (MV) and naphthalene (NP) can also be successfully used for the formation of selective protein heterodimers of more hydrophobic proteins. The presence of Cucurbit[8]uril as a host molecule is required to prevent MV induced unspecific dimerization with hydrophobic protein surfaces[1].

Cucurbit[8]uril shows a very low toxicity of the in vivo intravenous injection, as well as oral administration studies on mice[2].

[1]. Uhlenheuer DA, et al. Cucurbit[8]uril induced heterodimerization of methylviologen and naphthalene functionalized proteins. Chem Commun (Camb). 2011;47(24):6798-6800.

[2]. Uzunova VD, et al. Toxicity of cucurbit[7]uril and cucurbit[8]uril: an exploratory in vitro and in vivo study. Org Biomol Chem. 2010;8(9):2037-2042.

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