

SBE-β-CD

Catalog No: tcsc0731



Available Sizes

Size: 1g

Size: 5g

Size: 10g

Size: 25g

Size: 50g



Specifications

CAS No:

182410-00-0

Formula:

N/A

Pathway:

Others

Target:

Others

Purity / Grade:

>98%

Solubility:

DMSO : 5.625 mg/mL (Need ultrasonic and warming); H2O : 75 mg/mL (Need ultrasonic)

Alternative Names:

Sulfobutylether-β-Cyclodextrin

Observed Molecular Weight:

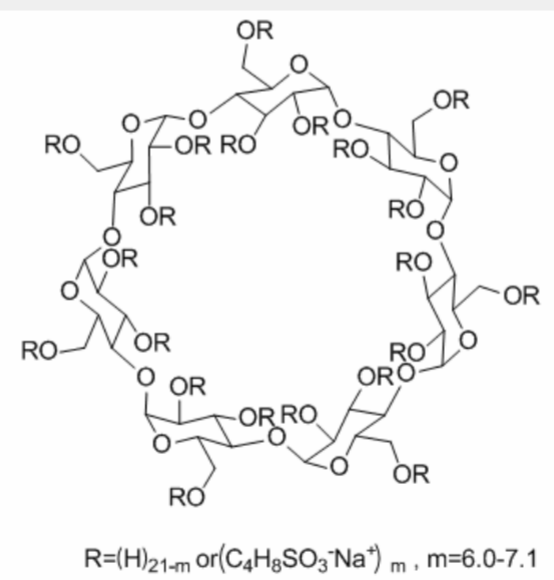
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Product Description

SBE-β-CD is a sulfobutylether **β-cyclodextrin** derivative, it is an excipient or a formulating agent used to increase the solubility of poorly soluble drugs.

In Vitro: SBE-β-CD is a chemically modified β-CD that is a cyclic hydrophilic oligosaccharide which is negatively charged in aqueous media. β-CD functioned as a solubilizer only at low concentrations, whereas SBE-β-CD exhibits strong solubilizing effects over a wide concentration range^[1].

In Vivo: SBE-β-CD is a derivatized form of β-cyclodextrin that has been developed as a safe and effective solubilizing agent for drugs being administered by parenteral and other routes (including oral). SBE-β-CD is a cyclic carbohydrate comprised of seven glucose molecules; the resulting truncated cone-like structure being further derivatized with an average of seven sulfobutyl ether groups^[2]. The calorimetric data for the Compound 1/SBE-β-CD complex indicates an extremely strong interaction, with an association constant of $2.3 \pm (0.2) \times 10^6 M^{-1}$ at 25°C and $1.6 \pm (0.2) \times 10^6 M^{-1}$ at 37°C^[3]. SBE-β-CD alone evokes a mild cardio-depressant effect independent of cocaine treatment ($p=0.0001$ compared to baseline) but attenuates further cocaine-induced decreases in RPP, dP/dtmax, and dP/dtmax_{abs} at high cocaine concentrations. No significant effect is seen on line pressure SBE-β-CD alleviates the most pronounced cardiac depression for RPP, dP/dtmax, and dP/dtmax_{abs}. This differential effect of SBE-β-CD at low and high concentrations produces an interaction effect in the two-way ANOVA for RPP (pabs ($p=0.0015$), and prevents any overall treatment effect. Infusing SBE-β-CD also attenuates the cardiac depression associated with cocaethylene toxicity for RPP and dP/dtmax. No differences are observed between ethanol-treated controls and cocaethylene plus SBE-β-CD groups^[4].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!