SBE-β-CD

Cat. No.: HY-17031
CAS No.: 182410-00-0
Target: Biochemical Assay Reagents
Pathway: Others
Storage: 4°C, sealed storage, away from moisture and light

SOLVENT & SOLUBILITY

In Vitro  
H₂O : 125 mg/mL (Need ultrasonic)

BIOLOGICAL ACTIVITY

Description  
SBE-β-CD is a sulfobutylether β-cyclodextrin derivative used as an excipient or a formulating agent to increase the solubility of poorly soluble agents.[1]

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 SBE7-β-CD exhibits strong solubilizing effects over a wide concentration range.[1]
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo  
20% SBE-β-CD in saline:
Guidelines (Following is our recommended protocol. This protocol only provides a guideline, and should be modified according to your specific needs).
1. Dissolve 0.9 g of NaCl in 100 mL distilled water to make a clear 0.9% saline solution.
2. Measure 2 g of dry SBE-β-CD.
3. Dissolve 2 g of SBE-β-CD in 0.9% saline to make 10 mL with a 20% (w/v) concentration. These may require ultrasonic (20-40 kHz, 30 seconds, repeat 3 times) or heating (37°C for about 30 minutes). If precipitation is observed, the precipitates can be dissolved by heating to 37°C and vortexing before use.
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PROTOCOL

Animal Administration [2]  
Rats
A 300 g rat is administered with 1 mL of a 0.1 M SBE-β-CD solution containing 5.64 mg of Compound 1, and assuming an extracellular volume of 90 mL, less than 0.1% of the complex would rapidly dissociate due to the initial effects of dilution.
This calculation, combined with the changing blood to plasma ratio in the presence of SBE-β-CD, provides a reasonable explanation for the observed differences in the blood and plasma profiles of Compound 1 after intravenous administration.
in either the cyclodextrin or cyclodextrin-free formulations. After IV administration of the cyclodextrin formulation, Compound 1 would initially be prevented from distributing into erythrocytes thereby resulting in a whole blood to plasma ratio of less than one. Subsequently, clearance of SBE-β-CD from the circulation would lead to changes in the complexation equilibrium such that the unbound fraction of Compound 1 would increase, thereby reestablishing normal blood to plasma partitioning (i.e. in favour of whole blood) and clearance.

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**REFERENCES**


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