

CHIR-99021 Solution (100 mM)

Cat. No. : PB180608

Size : 1mL

General Information

Product Form	Liquid
Solvent	DMSO
Concentration	100 mmol/L
Storage	-5~-20°C [®]
Whether to avoid light	Shading light
Shipping	Ice bag
Expiration date	12 months

Background

CHIR-99021 is an aminopyrimidine derivative that acts as a potent inhibitor of glycogen synthase kinase-3 (GSK-3), with significant inhibitory activity against GSK-3 α (IC₅₀: 10 nM) and GSK-3 β (IC₅₀: 6.7 nM), and a selectivity for GSK-3 that is more than 500-fold higher than that of its closest homologues (e.g. CDC2, ERK2 and other protein kinases). CHIR-99021 induces cardiac differentiation in embryonic stem cells by activating the Wnt/ β -catenin signaling pathway through GSK-3 inhibition.

CHIR-99021 has a wide range of applications in the field of stem cell and organoid research. It can induce the differentiation of human embryonic stem cells into endoderm and plays a critical role in the cultivation of kidney and retina-like organs. Additionally, CHIR-99021 significantly promotes the reprogramming of somatic cells into stem cells while enhancing the self-renewal capacity of both mouse and human embryonic stem cells. Research also shows that CHIR-99021 was able to induce cellular autophagy, further expanding its potential application in cell biology.

Common working concentration: 3 μ M.

Notes

1. This product was sterilized by 0.1 μ m filtration and can be used directly after melting.
2. It is necessary to pay attention to the aseptic operation and avoid the contamination.
3. Before using, the product should be thawed at 2-8°C and shaken thoroughly; repeated freeze-thaw cycles are not advised.
4. If precipitation happens after thawing, the contents can be resuspended by pipetting or vortex mixing. After incubating the solution at 37°C for 20 to 30 minutes or letting it stand at room temperature for about an hour, check to see if the precipitate dissolves as intended. If the product dissolves completely, it can be used as usual.
5. This product is a concentrated solution and should be diluted prior to use as required.
6. The product should be used within a month if stored regularly at 2-8°C. Keep in a frozen state at -5~-20°C for extended storage. Long-term storage at room temperature or between 2-8°C is not recommended. When lesser amounts are required, aliquoting is advised to prevent repeated freeze-thaw cycles.
7. This product is for research use only.
8. Swallowing is harmful, please take relevant protection when operating.