Forskolin Solution (10 mM)

Cat. No. : PB180605
Size : 1mL

General Information

Product Form	Liquid
Solvent	DMSO (100%)
Concentration	10 mmol/L
Storage	-5~-20°C
Whether to avoid light	Shading light
Shipping	Ice bag
Expiration date	12 months

Background

Forskolin is a natural diterpenoid compound extracted from the Indian plant Coleus forskohlii. Its primary mechanism of action involves the direct activation of adenylate cyclase(AC) by binding to the enzyme's catalytic core, leading to a significant increase in intracellular cyclic adenosine monophosphate (cAMP) levels in various cell types. Research have demostrated that Forskolin can activate all known AC isoforms in mammals. In addition, Forskolin not only acts on AC, but also interacts with other proteins (such as glucose transporter proteins and ion channels) ,which makes it an ideal tool for the development of affinity reagents for labeling or purifying enzymes.
In the medical field, Forskolin exhibits multiple promising clinical applications. Notably, it can significantly lower intraocular pressure (IOP) in rabbits, monkeys, and humans by reducing intraocular fluid inflow (without affecting outflow), and is therefore considered a potential drug for the treatment of glaucoma.In addition, Forskolin has the ability to induce differentiation in a variety of cells and activate the nuclear receptors PXR (pregnane X receptor) and FXR (farnesol X receptor). Its platelet anticoagulant and antihypertensive effects further broaden its clinical applications. Notably, Forskolin, when combined with other small molecules, induces reprogramming of fibroblasts into induced pluripotent stem cells (iPSCs), which is important in the field of regenerative medicine.
Forskolin serves as an essential component in organoid cultures. Especially in liver organoid culture, the addition of Forskolin is critical to maintaining both functional and structure of organoids. In addition, Forskolin has been found to induce cellular autophagy, which provides new research directions for its application in cell metabolism and disease treatment.
Common working concentration:1-10 μM.

Notes

1. This product was sterilized by 0.1 μm 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. May be harmful if swallowedd and contaced with skin. Please take proper precautions when operating.