

Wnt Protein Stabilizer

Catalog Number: AMS.bWps
Source: Mammalian proteins
Application: For stabilization of Wnt proteins in serum free culture conditions
Description: In serum-free culture conditions, Wnt proteins are very unstable. Wnt3a loses its activity completely in 16 hours. The instability of Wnt proteins limits their applications, especially the application for stem cell and organoid culture.

The Wnt protein stabilizer significantly maintains Wnt activity in serum-free culture conditions for more than 30 hours. With the presence of Wnt protein stabilizer, purified Wnt3a can support even colon organoid cultures that need strong Wnt activity.

Concentration: About 20 mg/mL of proteins and other components

Activity: Effects of Wnt protein stabilizer on Wnt3a bioactivity has been measured using TCF-based Wnt reporter assay.

A. Maintenance of Wnt Protein Activity: Wnt3a (50 ng/mL) was incubated in 37°C, 5% CO₂ incubator in serum-free DMEM in the presence of various concentrations of the Wnt protein stabilizer for different time points. Wnt3a activity was measured using TCF-based Wnt reporter stable cell line (Time Bioscience Catalog: WRNIH3T3A). The half-life of Wnt3a in the absence of Wnt protein stabilizer is 2 hours and Wnt3a completely lost its bioactivity within 16 hours in serum-free medium (Figure 1). Whereas, the half-life of Wnt3a in the presence of the Wnt protein stabilizer is about 24-30 hours (Figure 1).

B. Inhibition of Wnt protein stabilizer on Wnt3a activity: Wnt3a (20 ng/mL) was mixed with various concentrations of Wnt protein stabilizer. The Wnt3a activity was measured immediately by TCF-

Formulation

Proprietary formula.

Handling and Storage

Store at 2° - 8°C for months and below -20 °C for years.

This Wnt protein stabilizer is designed especially for protecting Wnt proteins from losing their activity in serum-free medium. To use it, take an aliquot calculated based on the volume of culture medium and add it into culture medium before or after addition of Wnt proteins; mix well but no vortex. The stock concentration is 20 mg/mL and the working concentrations are between 5 and 50 µg/mL. High concentrations of the Stabilizer inhibit Wnt activity. End users may titrate it to find out an optimal concentration.

Reference

N/A

