Wnt Ligand Stabilizer

Keep at 4°C

After Thawed

Catalog Number: AMS.BWPS

Source: Mammalian proteins

Application: For stabilization of Wnt ligands in serum free culture conditions

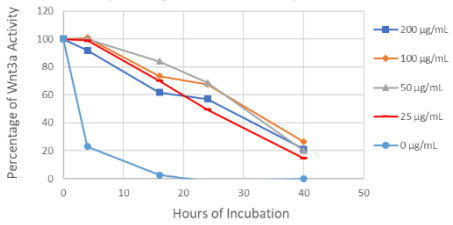
Description In serum-free culture conditions, Wnt ligands are very unstable. The half-life of Wnt3a in this culture condition is about 2 hours. The instability of Wnt ligands limits their applications, especially those for stem cell and organoid culture.

The Wnt ligand stabilizer (Stabilizer) significantly maintains Wnt3a activity in serum-free culture conditions for more than 30 hours. With the presence of 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 Stabilizer on Wnt3a bioactivity has been measured using TCF-based Wnt reporter assay (Catalog: AMS.WRNIH3T3A).

Figure 1. Maintanance of Wnt3a activity by Wnt ligand stabilizer complex at 37°C



A. Stabilizer Maintains Wnt Ligand Activity at 37°C: In the presence of various concentrations of Stabilizer, Wnt3a (50 ng/mL) was incubated in 37°C, 5% CO_2 incubator in serum-free DMEM/F12 for different time points. Wnt3a activity was determined and the Wnt3a activity without incubation was set as 100%. Half-life of Wnt3a in the absence of Stabilizer is 2 hours and Wnt3a completely losses its bioactivity within 16 hours (Figure 1). Whereas, the half-life of Wnt3a in presence of Stabilizer is about 24-30 hours (Figure 1).

B. Stabilizer Maintains Wnt Ligand Activity at 4°C: In the presence of two concentrations of Stabilizer, Wnt3a (100 ng/mL) was stored in 4°C in serum-free DMEM/F12 for up to 14 days. Wnt3a activity was determined and the Wnt3a activity without storing at 4°C was set as 100%. 50 µg/mL of Stabilizer effectively protects Wnt3a from losing activity. (Figure 2).

Figure 2. Stabilization of Wnt3a Activity by Wnt Ligand Stabilizer at 4°C

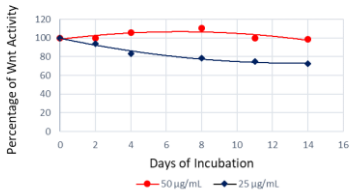
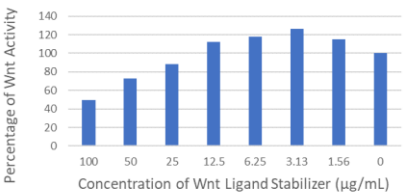


Figure 3 Effect of Wnt Ligand Stabilizer on Wnt3a Activity



C. Inhibition of Stabilizer on Wnt3a activity: Wnt3a (20 ng/mL) was mixed with various concentrations of Stabilizer. The Wnt3a activity was determined immediately. The Wnt3a activity in absence of Stabilizer was set as 100%. Figure 3 shows that Stabilizer doesn't inhibit Wnt3a activity at concentrations lower than 12.5 µg/mL.

Formulation Proprietary formula.

AMSBIO | www.amsbio.com | info@amsbio.com

AMSBIO LLC
USA & Canada
1035 Cambridge Street,
Cambridge, MA 02141
T: +1 (617) 945-5033 or
T: +1 (800) 987-0985
F: +1 (617) 945-8218

AMSBIO Europe BV
EU
Berenkoog 41,
1822 BH Alkmaar,
Netherlands
T: +31 (0) 72 8080244
F: +31 (0) 72 8080142

AMS Biotechnology (Europe) Ltd
UK & Rest of the World
184 Park Drive, Milton Park
Abingdon OX14 4SE
T: +44 (0) 1235 828 200
F: +44 (0) 1235 820 482

AMS Biotechnology (Europe) Ltd
Switzerland
Via Lisano 3,
(CP.683)
CH-6900 Massagno
T: +41 (0) 91 604 55 22
F: +41 (0) 91 605 17 85

AMSBIO Europe BV
Deutschland
T: +49 (0) 69 779099
F: +49 (0) 69 13376880

Handling and Storage	Store at 2° - 8°C for months and below -20 °C for years. Avoid Freeze-Thaw cycles. Stabilizer is designed especially for protecting Wnt ligands from losing their activity in serum-free medium. To use it, take an aliquot calculated based on the volume of culture medium and add into culture medium before or after addition of Wnt ligands; mix well but no vortexing. The stock concentration is 20 mg/mL and the working concentrations are between 10 and 50 µg/mL. High concentrations of Stabilizer inhibit Wnt activity. End users may titrate it to find out an optimal concentration.

AMSBIO LLC
USA & Canada
1035 Cambridge Street,
Cambridge, MA 02141
T: +1 (617) 945-5033 or
T: +1 (800) 987-0985
F: +1 (617) 945-8218

AMSBIO Europe BV
EU
Berenkoog 41,
1822 BH Alkmaar,
Netherlands
T: +31 (0) 72 8080244
F: +31 (0) 72 8080142

AMS Biotechnology (Europe) Ltd
UK & Rest of the World
184 Park Drive, Milton Park
Abingdon OX14 4SE
T: +44 (0) 1235 828 200
F: +44 (0) 1235 820 482

AMS Biotechnology (Europe) Ltd
Switzerland
Via Lisano 3,
(CP.683)
CH-6900 Massagno
T: +41 (0) 91 604 55 22
F: +41 (0) 91 605 17 85

AMSBIO Europe BV
Deutschland
T: +49 (0) 69 779099
F: +49 (0) 69 13376880