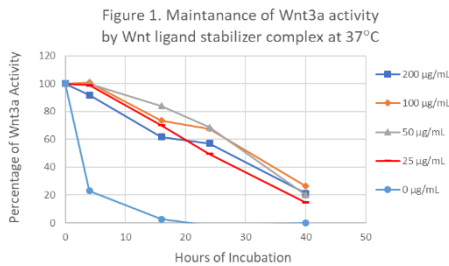
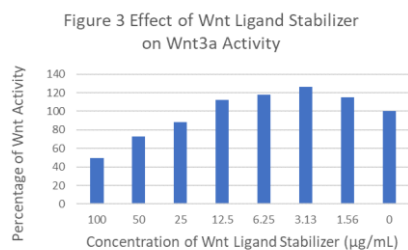
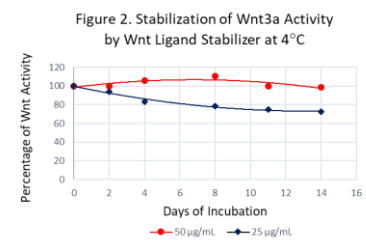


Catalog Number:	bWps
Source:	Mammalian proteins
Application:	For stabilization of Wnt ligands in serum free culture conditions
Description	In serum-free culture conditions, Wnt ligands are very unstable. The half-life of Wnt3a in this culture condition is about 2 hours. The instability of Wnt ligands 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 (Time Bioscience Catalog: WRNIH3T3A).



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% CO₂ 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 loses 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).



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.
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.