Wnt Surrogate-Fc Fusion Recombinant Protein

Product Details	
Size	25 µg
Species	Human
Published Species	Human
Expression system	HEK293 cells
Class	Recombinant
Type	Protein
Purity	> 95%
Endotoxin concentration	1 EU/mL
Activity	Greater than 25 fold induction in Topflash assay activity at a Wnt surrogate-Fc protein concentration between 0.03 - 5.0 nM (based on dimeric stoichiometry)
Conjugate	Unconjugated
Form	Liquid
Concentration	2 mg/mL
Purification	purified
Storage buffer	25mM tris, pH 8.2, with 500mM NaCl
Contains	no preservative
Storage conditions	-20°C or -80°C if preferred

Applications	Tested Dilution	Publications
Functional Assay (FN)	Assay-dependent	1 Publication

Product Specific Information

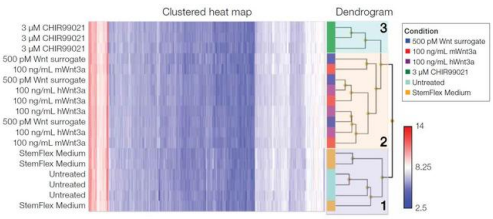
Gibco Wnt Surrogate-Fc Fusion Protein activates similar Wnt signaling pathways as most commercially available recombinant Wnt3a proteins or Wnt-conditioned media, while requiring a fraction of the amount of protein or hassle. Gibco Wnt Surrogate-Fc Fusion Protein was engineered with improved solubility, overcoming a major obstacle of working with Wnt3a and reducing the concentrations required to activate Wnt signaling in your model system.

Gibco Wnt Surrogate-Fc Fusion Protein is comprised of the LRP-binding domain of DKK linked to a selective, high affinity binder of Frizzled receptors.

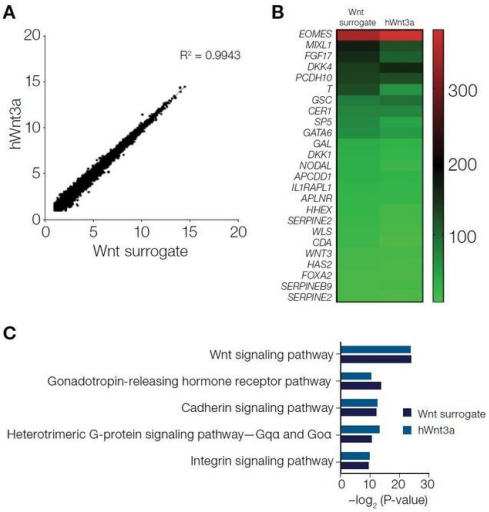
Gibco Wnt Surrogate-Fc Fusion Protein is provided at a concentration of 2 mg/mL which is equivalent to 17.1 µM based on dimeric stoichiometry.
Reconstitution: Dilute Gibco Wnt Surrogate-Fc Fusion Protein to a 5 µM stock solution using a suitable buffer. The working concentration should be determined experimentally.

Storage: Store undiluted Gibco Wnt Surrogate-Fc Fusion Protein at -80° for up to 1 year. After thawing, apportion into working aliquots and store at -20°C to -80°C for up to 2 months.

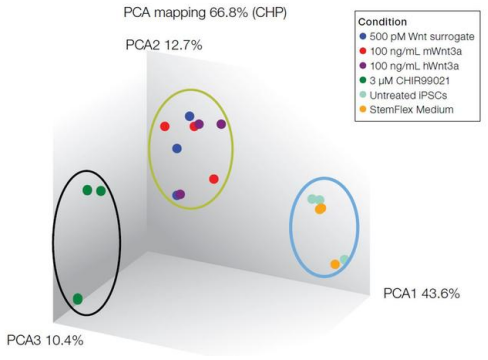
Product Images For Wnt Surrogate-Fc Fusion Recombinant Protein



Wnt Surrogate-Fc Fusion Protein (PHG0401) in FN
The Wnt surrogate transcriptome is highly similar to Wnt3a-regulated transcriptomes. Untreated iPSCs were cultured in DMEM/F-12 in the absence of Wnt agonist; StemFlex Medium is the PSC culture medium. All conditions were assayed 3 times as indicated by the labels on the left of the heat map. The heat map contains 4,744 genes with log2(rpm+1) and > 2.5-fold change in gene expression threshold; rpm = reads per million. Red-blue color scale-bar represents fold change. Clades 1-3 of the dendrogram highlight the 3 clusters of most similar treatments. This figure was generated with Applied Biosystems(TM) Transcriptome Analysis Console (TAC) Software, which is limited to 5,000 genes for hierarchical cluster analysis.



Wnt Surrogate-Fc Fusion Protein (PHG0401) in FN
The Wnt surrogate and hWnt3a modulate the same gene pathways in human iPSCs. (A) Linear regression analysis of the global transcriptomes of cells treated with Wnt surrogate and hWnt3a (log2(rpm+1)). (B) Heat map of the 25 genes most significantly upregulated by Wnt surrogate and the relative fold change of these genes in the hWnt3a-upregulated gene set. Color scale bar is fold change relative to untreated cells. (C) Gene ontology pathway analysis demonstrates that the native human Wnt3a sequence and the engineered Wnt surrogate have highly similar activity profiles.



Wnt Surrogate-Fc Fusion Protein (PHG0401) in FN
Principal component analysis (PCA) illustrates the comparable global transcriptional responses of the Wnt surrogate and recombinant Wnt3a in iPSCs. The PCA plot reveals that the untreated iPSCs and StemFlex Medium samples are significantly discordant from the Wnt agonist treatments. A small but notable difference between Wnt surrogate (blue) and CHIR99021 (green) treatments was also observed. The ovals indicate the closest dataset groupings.

View more figures on thermofisher.cn

1 Reference

Functional Assay (1)

Cell

Biofilm formation on human immune cells is a multicellular predation strategy of Vibrio cholerae.

Authors: Vidakovic L,Mikhaleva S,Jeckel H,Nisnevich V,Strenger K,Neuhaus K,Raveendran K,Ben-Moshe NB, Aznaourova M,Nosho K,Drescher A,Schmeck B,Schulte LN,Persat A,Avraham R,Drescher K

Year
2023

Species
Human

Dilution
0.5 nM