

## N001

## Wnt Surrogate-Fc Fusion-Protein

Product name:	Wnt Surrogate-Fc Fusion protein
Source:	Recombinant organoid growth factor, Produced via rPEX <sup>®</sup> technology in HEK293E cell line
Purification:	Protein A and SEC
Formulation:	25 mM Tris 500 mM NaCl pH 8.2
Storage	< -20 °C

### Available Product Sizes

Catalog number	Size
N001 – 0.1 mg	0.1 mg
N001 – 0.5 mg	0.5 mg
N001 – 1.0 mg	1.0 mg
Bulk	On request

### Description

The Wnt signaling pathway is essential for embryonic development, stem cell differentiation and regeneration of injured tissues. Wnts hetero-dimerize Frizzled (Fzd) family receptors and their co-receptors Lrp5/6, triggering downstream signaling pathways including the canonical  $\beta$ -catenin cascade, and resulting in expression of genes regulating cell development. Due to its critical roles in development, Wnt has been widely used as an essential cell growth factor in organoids, a rapidly developing model system for tissue development. Currently, recombinant Wnt3a is commonly used as Wnt source. Unfortunately, recombinant Wnt3a is water insoluble and cannot serve as a medium supplement. Recombinant Wnt Surrogate-Fc Fusion-protein has an excellent solubility, and a better wnt response at lower effective concentrations than other sources of Wnt3a. WNT Surrogate-Fc Fusion-protein supports long-term expansion of multiple different types of organoids, including intestinal, kidney, colon, hepatocyte, ovarian, and breast organoids.

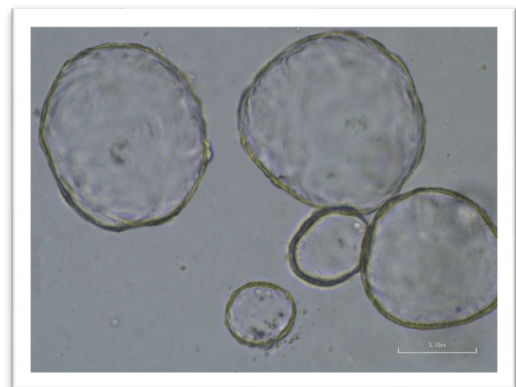


Figure 1:  
Human Duodenum organoids cultured on Wnt Surrogate-Fc fusion-protein supplemented medium.

## Use, Storage and stability

Predilute the product to a 5  $\mu$ M stock solution using a suitable buffer. The effective working concentration range varies between 0.1 - 0.5 nM and should be determined experimentally. Undiluted Wnt Surrogate-Fc Fusion-Protein should be stored at - 80 °C (stable for at least 1 year). The buffer contains 25 mM Tris 500 mM NaCl pH 8.2 without preservative. After thawing it should be stored in appropriate small aliquots at -20 °C or -80 °C (stable for at least 1 year). The product is stable for at least 5 freeze-thaw cycles without significant loss in SuperTopFlash activity.

Reconstituted Wnt Surrogate-Fc Fusion-protein in organoid culture medium is stable for 2 – 3 weeks at 4 °C. Avoid repeated warm cycles to 37 °C. Alternatively, reconstituted Wnt Surrogate-Fc Fusion-protein in organoid culture medium can be stored in appropriate aliquots at -20 °C to -80 °C (stable for at least 2 months).

## Precaution

1. For professional use only.
2. There might be a reduced pressure in the vial. Before opening the vial, equilibrate at 4 °C or ambient temperature. Briefly spin to settle the contents at the bottom of the vial and carefully open the vial.
3. As with any product derived from biological sources, proper handling procedures should be used.
4. The product can be used in various applications and settings. The user should evaluate the fitness-of-use.

## References

Miao et al., 2020, Cell Stem Cell 27, 840–851 November 5, 2020  
(<https://doi.org/10.1016/j.stem.2020.07.020>)

## PRODUCT USE LIMITATIONS, WARRANTY, DISCLAIMER

The product is not for use in humans.

The product can only be used for internal research and development.

The product cannot be used in any commercial activity (commercial use includes, but is not limited to, 1) preparation of growth media with the purpose of sale, 2) R&D activities for third parties). The product cannot be resold.

Please contact [bd@ipatherapeutics.com](mailto:bd@ipatherapeutics.com) to inquire about further information.

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