



## Recombinant Human Wnt-3a Protein Fragment 19-87 (rhWnt3AEF2)

Catalog #109-03AEF2

### Product Description

Wnt3a is one of 19 vertebrate members of the highly conserved Wingless-type MMTV integration site (Wnt) family. It is secreted cysteine-rich glycoproteins and critical for embryonic development and adult tissue homeostasis. Wnt3a functions as a key ligand in the canonical Wnt signaling pathway, binding Frizzled receptors in conjunction with LRP5/6 co-receptors, leading to the stabilization of cytoplasmic  $\beta$ -catenin. Stabilized  $\beta$ -catenin translocate to the nucleus, where it associates with TCF/LEF transcription factors to regulate expression of Wnt target genes. Wnt3a plays a pivotal role in embryonic mesoderm development, caudal somite patterning, neural tube morphogenesis, and the self-renewal of stem cells in the intestinal crypt. It also supports the maintenance of various stem cell populations, including hematopoietic, neural, and embryonic stem cells. This product is a recombinant peptide corresponding to human Wnt3a protein fragment (AA 19-87, indicated with underlining), fused with a tag to facilitate expression and purification. This region is located within the mid-to-C-terminal domain of Wnt3a and contains conserved amino acid residues that may contribute to protein folding and biological activity.

### Specifications and Quality Control

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Synonyms:         | Wnt-3a, Wingless-type MMTV integration site family member 3A                                                                                                                                                                                                                                                                                                                                                                                  |
| AA Sequence:      | MSDKIIHLTD DSFDTDVLKA DGAILVDFWA<br>EWCGPCKMIA PILDEIADEY QGKLTVAKLN<br>IDQNPGTAPK YGIRGIPTLL LFKNGEVAAT<br>KVGALSKGQL KEFLDANLAG SGSGHMHSHH<br>HHSSGLVPRG SGMKETAAAK FERQHMDSPD<br>LGTDDDDKAM GSSHHHHHHS SGLVPRGSHM<br>ASMSDSEVNQ EAKPEVKPEV KPETHINLKV<br>SDGSSEIFFK IKKTTPLRRL MEAFKRQGK<br>EMDSLRFLYD GIRIQADQTP EDLDMEDNDI<br>IEAHREQIGG SYPIWWSLAV GPQYSSLGSQ<br><u>PILCASIPGL VPKQLRFCRN YVEIMPSVAE</u><br><u>GIKIGIQECQ HQFRGRRWN</u> |
| Source:           | <i>E. coli</i>                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Molecular Weight: | 38.7 kDa, non-glycosylated polypeptide chains containing 349 amino acids                                                                                                                                                                                                                                                                                                                                                                      |

Rev. 0

## Quality Control

|                      |                                  |
|----------------------|----------------------------------|
| Purity               | > 90%                            |
| Physical Appearance: | White lyophilized powder.        |
| Endotoxin:           | <0.1 ng/μg of protein (<1 EU/μg) |

## Formulation

Lyophilized from a 0.2 μm filtered concentrated solution in 1x PBS.

## Reconstitution

Reconstitute in sterile distilled water or 1x PBS to a concentration of 0.1-1.0 mg/mL.

## Shipping and Storage

Gel pack. Upon receipt, store at -20°C after receiving. Upon reconstitution, store at 2-8°C for up to one week. For maximal stability, aliquot and store at -20°C. Avoid repeated freeze/ thaw cycles.

## Usage

rhWnt3AEF2 is for research use only. It is not approved for human or animal use, or for application in clinical or *in vitro* diagnostic procedures.