

## PPH111 PODS® Human TNF-α

### Description

The product contains the polyhedrin protein co-crystallized with Human TNF-α. Tumor Necrosis Factor alpha (TNF-α) is a prototypic ligand of the TNF superfamily, a pleiotropic pro-inflammatory cytokine secreted by various cells, including adipocytes, monocytes, macrophages, B cells, T cells, fibroblasts, and tumor cells. Thus, playing an important role in inflammation, immune system development, apoptosis, and lipid metabolism. There is significant cross-species reactivity between human and mouse cytokines.

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|-------------------------|---|
| <b>Length</b>           | 222 aa  |
| <b>Molecular Weight</b> | 22.5 kDa  |
| <b>Source</b>           | <i>Spodoptera frugiperda (Sf9) cell culture</i> |
| <b>Accession Number</b> | P01375  |

### Usage Recommendation

PODS® co-crystals provide a depot of proteins which are steadily secreted. It has been estimated that the biological activity of 50 million PODS® co-crystals generates the same peak dose as 3.3 µg of standard recombinant protein. However, at 5 days following the start of seeding the PODS® co-crystals, there are more than 50% of these peak levels still present in the culture system. Ultimately, the amount of PODS® co-crystals that is optimal for a particular experiment should be determined empirically. Based on previous data, we suggest using 50 million PODS® co-crystals in place of 3.3 µg of standard growth factor as a starting point. To control for cross-reactivity with cells or as a negative control, we recommend using PODS® growth factors alongside [PODS® Empty crystals](http://www.cellgs.com/products/podsand8482-empty.html), as the latter do not contain or release cargo protein.

### Specifications

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|--------------------------|--|
| <b>Alternative Names</b> | TNFalpha, tnfa, tnf-a, TNF-alpha, TNF-alphacachectin, TNFATNF macrophage-derivedAPC1 protein, cachectin, Cachetin, DIF, TNFSF1A, TNFSF2, TNFSF2TNF superfamily member 2, tumor necrosis factor member 2, tumor necrosis factor alpha, tumor necrosis factor li |
| <b>Endotoxin Level</b>   | <0.06 EU/ml as measured by gel clot LAL assay  |
| <b>Formulation</b>       | PODS® were lyophilized from a volatile solution  |
| <b>AA Sequence</b>       | MADVAGTSNR DFRGREQRLF NSEQYNYNNS KNSRPSTSLY KKAGFVRSSS RTPSDKPVAH<br>VVANPQAEQG LQWLNRRANA LLANGVELRD NQLVVPSEGL YLIYSQVLFK GQGCPSTHVL<br>LTHTISRIAV SYQTKVNLLS AIKSPCQRET PEGAEAKPWY EPIYLGGVFQ LEKGDRLSAE<br>INRPDYLDFA ESGQVYFGII AL                        |

### Preparation and Storage

|                              |  |
|------------------------------|--|
| <b>Reconstitution</b>        | PODS® co-crystals may be reconstituted at 200 million co-crystals/ml in water. 20% glucose has a buoyant density closer to PODS® co-crystals and can be useful for aliquoting. PODS® co-crystals are highly stable when stored in aqueous solution (pH range 6 - 8). |
| <b>Stability and Storage</b> | Upon receipt, store at 4°C. PODS® co-crystals are stable for at least 1 year when dry and 6 months when resuspended.   |