

## Recombinant Porcine Interleukin-1 beta (Porcine IL-1 $\beta$ )

### Product Information

Product Name	Cat#	Size
	90181ES10	10 $\mu$ g
Recombinant Porcine Interleukin-1 beta (Porcine IL-1 $\beta$ )	90181ES60	100 $\mu$ g
	90181ES76	500 $\mu$ g

### Product Description

IL-1 is a name that designates two pleiotropic cytokines, IL-1 alpha (IL-1F1) and IL-1 beta (IL-1F2), which are the products of distinct genes. IL-1 alpha and IL-1 beta are structurally related polypeptides that share approximately 27% amino acid (aa) identity in porcine. Both proteins are produced by a wide variety of cells in response to inflammatory agents, infections, or microbial endotoxins. While IL-1 alpha and IL-1 beta are regulated independently, they bind to the same receptor and exert identical biological effects. IL-1 RI binds directly to IL-1 alpha or IL-1 beta and then associates with IL-1 R accessory protein (IL-1 R3/IL-1 R AcP) to form a high-affinity receptor complex that is competent for signal transduction. IL-1 RII has high affinity for IL-1 beta but functions as a decoy receptor and negative regulator of IL-1 beta activity. IL-1ra functions as a competitive antagonist by preventing IL-1 alpha and IL-1 beta from interacting with IL-1 RI. The porcine IL-1 beta cDNA encodes a 267 aa precursor. A 114 aa propeptide is cleaved intracellularly by the cysteine protease IL-1 beta -converting enzyme (Caspase-1/ICE) to generate the active cytokine. The 17 kDa mature porcine IL-1 beta shares 63%-70% aa sequence identity with canine, cotton rat, equine, feline, human, mouse, rat, and rhesus IL-1 beta.

### Product Properties

<b>Synonyms</b>	IL-1 beta
<b>Accession</b>	P26889
<b>GeneID</b>	397122
<b>Source</b>	E.coli-derived Porcine IL-1 $\beta$ , Ala115-Pro267.
<b>Molecular Weight</b>	Approximately 17.6 kDa.
<b>AA Sequence</b>	ANVQSMECKL QDKDHKSLVL AGPHMLKALH LLTGDLKREV VFCMSFVQGD DSNNKIPVTL GIKGKNLYLS CVMKDNTPTL QLEDIDPKRY PKRDMEKRFV FYKTEIKNRV EFESALYPNW YISTSQAEQK PVFLGNSKGR QDITDFTMEV LSP
<b>Tag</b>	None
<b>Physical Appearance</b>	Sterile Filtered White lyophilized (freeze-dried) powder.
<b>Purity</b>	> 95% by SDS-PAGE and HPLC analyses.
<b>Biological Activity</b>	The ED <sub>50</sub> as determined by a cell proliferation assay using murine D10S cells is less than 5.0 ng/mL, corresponding to a specific activity of > 2.0 $\times$ 10 <sup>5</sup> IU/mg. Fully biologically active when compared to standard.
<b>Endotoxin</b>	< 1.0 EU per 1 $\mu$ g of the protein by the LAL method.
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered concentrated solution in PBS, pH 7.4, 3 % trehalose. We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/mL. Stock solutions should be apportioned into working aliquots and stored at $\leq$ -20°C. Further dilutions should be made in appropriate buffered solutions.
<b>Reconstitution</b>	

## **Shipping and Storage**

The products are shipped with ice pack and can be stored at -20°C to -80°C for 1 year.

Recommend to aliquot the protein into smaller quantities when first used and avoid repeated freeze-thaw cycles.

## **Cautions**

1. Avoid repeated freeze-thaw cycles.
2. For your safety and health, please wear lab coats and disposable gloves for operation.
3. For research use only!