

#### DESCRIPTION

**Source** Chinese Hamster Ovary cell line, CHO-derived mouse IL-34 protein  
Asn21-Leu193, with a C-terminal 6-His tag  
Accession # Q8R1R4.1

**N-terminal Sequence Analysis** Asn21

**Predicted Molecular Mass** 21 kDa

#### SPECIFICATIONS

**SDS-PAGE** 21-32 kDa, under reducing conditions

**Activity** Measured in a cell proliferation assay using M-NFS-60 mouse myelogenous leukemia lymphoblast cells. Nakoinz, I. *et al.* (1990) J. Immunol. **145**:860.  
The ED<sub>50</sub> for this effect is 10.0-100 ng/mL.

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

#### PREPARATION AND STORAGE

**Reconstitution** Reconstitute the 10 µg size at 100 µg/mL in water. Reconstitute all other sizes at 500 µg/mL in water.

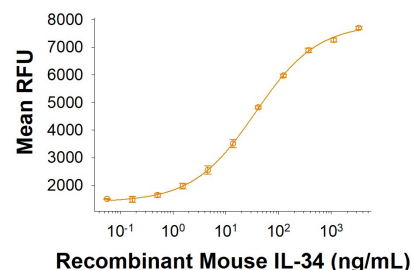
**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

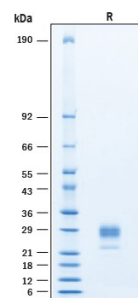
#### DATA

##### Bioactivity



**Recombinant Mouse IL-34 His-tag Protein Bioactivity.** Measured in a cell proliferation assay using M-NFS-60 mouse myelogenous leukemia lymphoblast cells. The ED<sub>50</sub> for this effect is 10.0-100 ng/mL.

##### SDS-PAGE



**Recombinant Mouse IL-34 His-tag Protein SDS-PAGE.** 2 µg/lane of Recombinant Mouse IL-34 His-tag Protein (Catalog # 11653-ML) was resolved with SDS-PAGE under reducing (R) condition and visualized by Coomassie® Blue staining, showing bands at 21-32 kDa.

#### BACKGROUND

Interleukin 34 (IL-34; also known as uncharacterized protein C16orf77 homolog) is a 39 kDa, secreted cytokine that belongs to no known cytokine family (1). Mouse IL-34 is synthesized as a 235 amino acid (aa) precursor with a 20 aa signal sequence and a 215 aa mature chain (SwissProt # Q8R1R4). The mature chain contains two potential sites for N-linked glycosylation. There are three isoforms for IL-34. Isoform 1 (Q8R1R4-1) is the recombinant mouse IL-34 described in this insert. Isoform 2 (Q8R1R4-2) has an 85 aa substitution for the final 101 aa's in isoform 1, and isoform 3 (Q8R1R4-3) lacks Q81 in isoform 1. Mouse IL-34 is 71% identical to human IL-34 on the amino acid level. IL-34 is expressed in various tissues, including heart, brain, lung, liver, kidney, spleen, thymus, testes, ovary, small intestine, prostate, and colon, and it is most abundant in the spleen (1). The receptor for IL-34 is colony-stimulating factor 1 receptor (CSF-1R) (1). IL-34 stimulates monocyte viability (1). In functional studies, IL-34, like CSF-1, the other ligand for CSF-1R, stimulated phosphorylation of extracellular signal-regulated kinase-1 and -2 (ERK1/2) in human monocytes (1). In addition, IL-34 promoted the formation of the colony-forming unit-macrophage (CFU-M), a macrophage progenitor, in human bone marrow cultures (1).

#### References:

1. Lin, H. *et al.* (2008) Science **320**:807.