Human IL-34 Antibody

Antigen Affinity-purified Polyclonal Sheep IgG
Catalog Number: AF5265

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-34 in direct ELISAs and Western blots. In direct ELISAs, approximately 30% cross-reactivity with recombinant mouse IL-34 is observed.
Source	Polyclonal Sheep IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human IL-34 Asn21-Pro242 Accession # NP_689669
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

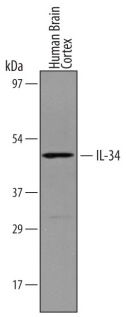
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Neutralization	Measured by its ability to neutralize IL-34-induced proliferation in human peripheral blood monocytes. Lin, H. *et al.* (2008) Science **320**:807. The Neutralization Dose (ND_{50}) is typically 0.035-0.175 µg/mL in the presence of 10 ng/mL Recombinant Human IL-34.	

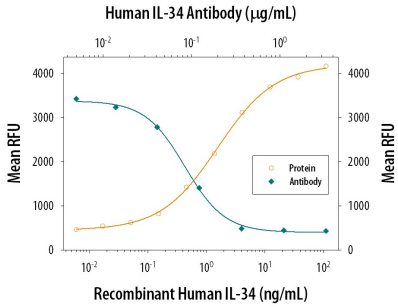
DATA

Western Blot



Detection of Human IL-34 by Western Blot. Western blot shows lysates of human brain cortex tissue. PVDF membrane was probed with 1 µg/mL of Sheep Anti-Human IL-34 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5265) followed by HRP-conjugated Anti-Sheep IgG Secondary Antibody (Catalog # HAF016). A specific band was detected for IL-34 at approximately 45 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Neutralization



Cell Proliferation Induced by IL-34 and Neutralization by Human IL-34 Antibody. Recombinant Human IL-34 (Catalog # 5265-IL) stimulates proliferation in human peripheral blood monocytes in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human IL-34 (10 ng/mL) is neutralized (green line) by increasing concentrations of Sheep Anti-Human IL-34 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF5265). The ND_{50} is typically 0.035-0.175 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Interleukin 34 (IL-34; also known as uncharacterized protein C16orf77) is secreted as a homodimer consisting of 39 kDa monomers (1). It belongs to no known cytokine family. Human IL-34 is synthesized as a 242 amino acid (aa) precursor that contains a 20 aa signal sequence and a 222 aa mature chain. The mature chain contains one potential site of N-linked glycosylation. Human IL-34 is 71% identical to mouse IL-34 on the amino acid level (1). IL-34 is expressed in various tissues, including the heart, brain, liver, kidney, spleen, thymus, testes, ovary, small intestine, prostate, and colon, and 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 proliferation (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.

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