Human IL-36β/IL-1F8 Antibody

Antigen Affinity-purified Polyclonal Goat IgG

Catalog Number: AF1099

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human IL-36β/IL-1F8 in direct ELISAs and Western blots. In direct ELISAs, less than 1% cross-reactivity with recombinant human (rh) IL-36γ and rhIL-36α is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	*E. coli*-derived recombinant human IL-36β/IL-1F8 Met1-Glu157 Accession # Q3MIH0
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.

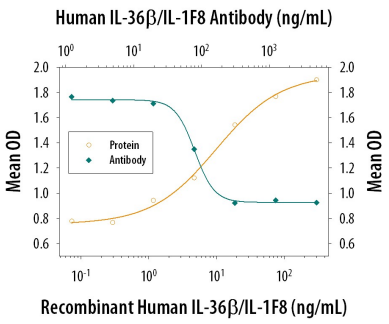
APPLICATIONS

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	0.1 µg/mL	Recombinant Human IL-36β/IL-1F8 (Catalog # 1099-IL)
Immunohistochemistry	5-15 µg/mL	Immersion fixed paraffin-embedded sections of human tonsil subjected to Antigen Retrieval Reagent-Basic (Catalog # CTS013)
Neutralization	Measured by its ability to neutralize IL-36β/IL-1F8-induced IL-8 secretion in human pre-adipocytes. van Asseldonk, E.J. *et al.* (2010) Obesity 18:2234.The Neutralization Dose (ND_{50}) is typically 50-300 ng/mL in the presence of 20 ng/mL Recombinant Human IL-36β/IL-1F8 (aa 5-157).	
Blockade of Receptor-ligand Interaction	In a functional ELISA, 1.5-6 µg/mL of this antibody will block 50% of the binding of 5 µg/mL of Recombinant Human IL-1 Rrp2/IL-1 R6 Fc Chimera (Catalog # 872-RP) to immobilized Recombinant Human IL-36β/IL-1F8 (Catalog # 1099-IL) coated at 1 µg/mL (100 µL/well). At 100 µg/mL, this antibody will block >90% of the binding.	

DATA

Neutralization



Cell IL-8 Secretion Induced by IL-36β/IL-1F8 and Neutralization by Human IL-36β/ IL-1F8 Antibody.
Recombinant Human IL-36β/ IL-1F8 (aa 5-157) (Catalog # 6834-IL) induces IL-8 secretion in human pre-adipocytes in a dose-dependent manner (orange line). IL-8 Secretion elicited by Recombinant Human IL-36β/ IL-1F8 (aa 5-157) (20 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human IL-36β/IL-1F8 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1099). The ND_{50} is typically 50-300 ng/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.

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BACKGROUND

Human interleukin 1 family member #8 [IL-1F8; also named Interleukin-36 beta, IL36B, FIL-1η (eta) and IL-1H2] is a member of the IL-1 family of proteins (1-3). IL-1 family members include IL-1β, IL-1α, IL-1ra, IL-18 and IL-1F5 through F10 (4). All family members show a 12 β-stranded β-trefoil configuration, and are believed to have arisen from a common ancestral gene that has undergone multiple duplications (4). Two alternatively spliced transcript variants encode distinct (164 or 157 residues) protein isoforms that differ in their C-terminal 70 amino acid (aa) residues have been reported (3). IL-1F8 isoform 2 is synthesized as a 157 aa protein that contains no signal sequence and no prosegment (1, 2). Unlike IL-1F8 isoform 1 which lacks potential N-linked glycosylation sites, isoform 2 contains one potential N-linked glycosylation site in its unique C-terminus. IL-1F8 is reported to be actively secreted (1). Human IL-1F8 isoform 2 shares 61% aa identity with mouse IL-1 ra, a 183 aa form of IL-1F8. Within the IL-1 family, IL-1F8 shares 30%, 32%, 37%, 46%, 34%, 45% and 28% aa sequence identity with IL-1 ra, IL-1β, IL-1F5, F6, F7, F9 and F10, respectively. Cells reported to express IL-1F8 include resting and activated monocytes and B cells (1, 4). The receptor for IL-1F8 is reported to be a combination of IL-1 Rrp2 and IL-1 RAcP (5). Recombinant IL-1F8, along with IL-1F6 and IL-1F9, has been shown to activate the pathway involving NF-κB and MAPK in an IL-1 Rrp2 dependent manner.

References:

1. Smith, D.E. *et al.* (2000) J. Biol. Chem. **275**:1169.
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4. Dunn, E. *et al.* (2001) Trends Immunol. **22**:533.
5. Towne, J.E. *et al.* (2004) J. Biol. Chem. **279**:13677.

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