

DESCRIPTION

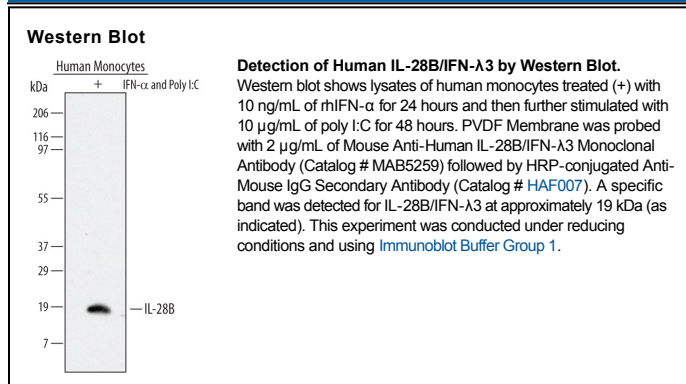
Species Reactivity	Human
Specificity	Detects human IL-28B/IFN-λ3 in direct ELISAs and Western blots. In direct ELISAs, no cross-reactivity with recombinant human (rh) IL-28A, rhIL-29, or recombinant mouse IL-28 is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 567143
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Chinese hamster ovary cell line CHO-derived recombinant human IL-28B/IFN-λ3 Arg30-Val200 (Lys74Arg) Accession # AAN28264
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 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	2 μg/mL	See Below

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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

IL-28B (also named interferon- λ 3, IFN- λ 3), IL-28A (IFN- λ 2) and IL-29 (IFN- λ 1) are type III interferons that are class II cytokine receptor ligands (1-4). They are distantly related to members of the IL-10 family and type I IFN family (1-4). Human IL-28B cDNA encodes a 200 amino acid (aa) protein with a 25 aa signal peptide and a 175 aa mature protein that lacks N-glycosylation sites. Mature human IL-28B shares 64% and 75% aa sequence identity with mouse and canine IL-28B, respectively, and is active across species (5). Human IL-28B shares 94% and 69% aa identity with human IL-28A and IL-29, respectively (4). Type III interferons are widely expressed, but are mainly produced by antigen presenting cells in response to viruses and double-stranded RNA that interact with Toll-like receptors or RIG-1 family helicases (2-6). They signal through a widely expressed receptor that is a heterodimer of the IL-10 receptor β (IL-10 R β) and IL-28 receptor α (IL-28 R α ; also called IFN- λ R1) (2, 3, 7, 9). Interaction of either type I or type III IFNs with their receptors activates similar pathways, including JAK tyrosine kinase activation, STAT phosphorylation and formation of the IFN-stimulated regulatory factor 3 (ISGF-3) transcription factor complex (1-3). Both type I and III IFNs induce anti-viral activity and upregulate MHC class I antigen expression (2-6). Cell lines responsive to type III IFNs are also responsive to type I IFNs, but in general, higher concentrations of type III IFNs are needed for similar *in vitro* responses (8). *In vivo*, however, type III IFNs enhance levels of IFN- γ in serum, suggesting that the robust anti-viral activity of type III IFNs may stem in part from activation of the immune system (5, 7). Anti-proliferative and antitumor activity *in vivo* has also been shown for type III IFNs (9-11).

References:

1. Chen, Q. *et al.* (2006) *Vitam. Horm.* **74**:207.
2. Sheppard, P. *et al.* (2003) *Nat. Immunol.* **4**:63.
3. Kotenko, S.V. *et al.* (2003) *Nat. Immunol.* **4**:69.
4. Bartlett, N.W. *et al.* (2005) *J. Gen. Virol.* **86**:1589.
5. Ank, N. *et al.* (2006) *J. Virol.* **80**:4501.
6. Onoguchi, K. *et al.* (2007) *J. Biol. Chem.* **282**:7576.
7. Siebler, J. *et al.* (2007) *Gastroenterology* **132**:358.
8. Meager, A. *et al.* (2005) *Cytokine* **31**:109.
9. Lasfar, A. *et al.* (2006) *Cancer Res.* **66**:4468.
10. Sato, A. *et al.* (2006) *J. Immunol.* **176**:7686.
11. Zitzmann, K. *et al.* (2006) *Biochem. Biophys. Res. Commun.* **344**:1334.