biotechne

Biotinylated Recombinant Human IL-31RA Avi-tag His-tag

Catalog Number: AVI2769

RDsystems

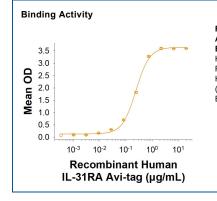
Source	Chinese Hamster Ovary cell line, CHO-derived human IL-31RA protein			
	Human IL-31RA (Ala20-Ser516) Accession # AAS86444.1	Avi-tag	6-His tag	
	N-terminus	C-terminus		
N-terminal Sequence Analysis	Ala20			
Structure / Form	Biotinylated via Avi-tag			
Predicted Molecular Mass	61 kDa			

SPECIFICATIONS		
SDS-PAGE	90-105 kDa, under reducing conditions.	
Activity	Measured by its binding ability in a functional ELISA. Recombinant Human IL-31RA Avi-tag His-tag (Catalog # AVI2769) binds Human Recombinant Human IL-31 (Catalog # 2824-IL/CF) with an ED ₅₀ of 0.100-1.20 μg/mL.	
Endotoxin Level	<0.50 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	ion Reconstitute at 500 μg/mL in PBS.	
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 starile conditions ofter reconstitution	

- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 $^\circ\text{C}$ under sterile conditions after reconstitution.

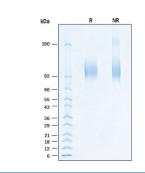
DATA



٠

Recombinant Human IL-31RA Avi-tag His-tag Protein Binding Activity. Recombinant Human IL-31RA Avi-tag His-tag Protein (Catalog # AVI2769) binds Human Recombinant Human IL-31 (Catalog # 2824-IL/CF) with an ED₅₀ of 0.100-1.20 µg/mL.

SDS-PAGE



Recombinant Human IL-31RA Avi-tag His-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human IL-31RA Avi-tag His-tag Protein (Catalog # AVI2769) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 90-105 kDa, under reducing conditions.

Rev. 4/9/2024 Page 1 of 2

Bio-Techne® Global | bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL: 1.612.379.2956 USA | TEL: 800.343.7475 Canada | TEL: 855.668.8722 Europe | Middle East | Africa TEL: +44.0.1235.529449 China | info.cn@bio-techne.com TEL: 400.821.3475

biotechne[®]

Biotinylated Recombinant Human IL-31RA Avi-tag His-tag Catalog Number: AVI2769

RDsystems

BACKGROUND

The interleukin-31 receptor A subunit (IL-31 RA), also known as gp130-Like Monocyte Receptor (GLM-R or GPL), is a ~100 kDa type I transmembrane glycoprotein that is classified as being a type I cytokine receptor (1, 2). A heterodimeric complex of IL-31 RA and the oncostatin M receptor (OSM-R) functions as the signaling receptor for IL-31 (3). Both subunits are inducibly expressed throughout the myelomonocytic lineage and are upregulated by interferon-y and bacterial lipopolysaccharides (1-3). IL-31 RA is also expressed on keratinocytes, dorsal root ganglia neurons, and variably on lung epithelial cells (3-6). The 732 amino acid (aa) IL-31 RA contains a 19 aa signal sequence, a 500 aa extracellular domain (ECD), a 21 aa transmembrane domain and a 192 aa cytoplasmic domain. The ECD shares 60%, 58%, 73% and 70% aa identity with mouse, rat, canine and bovine IL-31 RA ECD, respectively. Human IL-31 receptors do not respond to mouse IL-31 (7). The ECD contains five fibronectin type III domains; the first two contain four conserved cysteine residues and a WSXWS motif common to type I cytokine receptors (2). Twelve alternately spliced human IL-31 RA isoforms are known and range in size from 356-745 amino acids. A long (745 aa) and a short (560 aa) transmembrane form are the predominant forms, and many cell lines express both forms (8). The long form, like the 732 aa form, signals by recruiting STAT3, 5 or 1, while the short form does not recruit STATs and inhibits IL-31 signaling. The ratio of these forms and their co-expression with OSM-R determines a cell's response to IL-31 (8). In both humans and transgenic mice, IL-31 from skin-homing Th2 cells may contribute to the pruritis (itching) associated with nonatopic dermatitis, especially in infected skin (3, 9, 10). Our Avi-tag Biotinylated human IL-31RA His-tag features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

- 1. Ghilardi, N. et al. (2002) J. Biol. Chem. 277:16831.
- 2. Diveu, C. et al. (2003) J. Biol. Chem. 278:49850.
- 3. Dillon, S. R. et al. (2004) Nat. Immunol. 5:752.
- 4. Chattopadhyay, S. et al. (2007) J. Biol. Chem. 282:3014.
- 5. Perrigoue, J. G. et al. (2007) J. Exp. Med. 204:481.
- 6. Bando, T. et al. (2006) Neuroscience 142:1263.
- Broxmeyer, H. E. et al. (2007) Exp. Hematol. 35:78. 7.
- 8. Diveu, C. et al. (2004) Eur. Cytokine. Netw. 15:291.
- 9. Bilsborough, J. et al. (2006) J. Allergy Clin. Immunol. 117:418.
- 10. Sonkoly, E. et al. (2006) J. Allergy Clin. Immunol. 117:411.