

# Human IL-36RA

## premium grade

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#### 1. Description

| <b>Products</b>            | Human IL-36RA, premium grade.<br>Recombinant human interleukin 36 receptor antagonist.  |               |           |    |             |    |             |     |             |      |             |
|----------------------------|---|---------------|-----------|----|-------------|----|-------------|-----|-------------|------|-------------|
|                            | <table border="1"> <thead> <tr> <th>Content in µg</th><th>Order no.</th></tr> </thead> <tbody> <tr> <td>10</td><td>130-132-861</td></tr> <tr> <td>25</td><td>130-132-863</td></tr> <tr> <td>100</td><td>130-132-864</td></tr> <tr> <td>1000</td><td>130-132-865</td></tr> </tbody> </table>   | Content in µg | Order no. | 10 | 130-132-861 | 25 | 130-132-863 | 100 | 130-132-864 | 1000 | 130-132-865 |
| Content in µg              | Order no.   |               |           |    |             |    |             |     |             |      |             |
| 10                         | 130-132-861   |               |           |    |             |    |             |     |             |      |             |
| 25                         | 130-132-863   |               |           |    |             |    |             |     |             |      |             |
| 100                        | 130-132-864   |               |           |    |             |    |             |     |             |      |             |
| 1000                       | 130-132-865   |               |           |    |             |    |             |     |             |      |             |
| <b>Biological activity</b> | The ED <sub>50</sub> is ≤ 500 ng/mL corresponding to an activity of ≥ 2.0 × 10 <sup>3</sup> U/mg. Lot-specific activities are stated in the Certificate of Analysis ( <a href="http://www.miltenyibiotec.com/certificates">www.miltenyibiotec.com/certificates</a> ).<br><b>Note:</b> The ED <sub>50</sub> is determined by IL-8 inhibition assay in the presence of IL-36 beta using A431 cells. |               |           |    |             |    |             |     |             |      |             |
| <b>Primary structure</b>   | Single, non-glycosylated polypeptide chain (154 amino acid residues).   |               |           |    |             |    |             |     |             |      |             |
| <b>Molecular mass</b>      | 16.8 kDa.   |               |           |    |             |    |             |     |             |      |             |
| <b>Source</b>              | Produced in <i>E. coli</i> .  |               |           |    |             |    |             |     |             |      |             |
| <b>Product format</b>      | Lyophilized from a filtered (0.2 µm) buffer solution.   |               |           |    |             |    |             |     |             |      |             |
| <b>Stabilizer</b>          | Mannitol and trehalose.   |               |           |    |             |    |             |     |             |      |             |
| <b>Purity</b>              | >97% as determined by SDS-PAGE analysis.  |               |           |    |             |    |             |     |             |      |             |
| <b>Endotoxin level</b>     | Low endotoxin (<0.1 EU/µg cytokine) as determined by Limulus Amebocyte Lysate (LAL) assay.  |               |           |    |             |    |             |     |             |      |             |
| <b>Storage</b>             | Lyophilized Human IL-36RA, premium grade should be stored at -20 °C. The expiration date is indicated on the vial label. Upon reconstitution aliquots should be stored at -20 °C or below. Avoid repeated freeze-thaw cycles.   |               |           |    |             |    |             |     |             |      |             |
| <b>Reconstitution</b>      | It is recommended to reconstitute lyophilized Human IL-36RA, premium grade with deionized sterile-filtered water to a final concentration of 0.1–1.0 mg/mL in a minimal volume of 100 µL. Further dilutions should be prepared with 0.1% bovine serum albumin (BSA) or human serum albumin (HSA) in phosphate-buffered saline.  |               |           |    |             |    |             |     |             |      |             |

#### 1.1 Background information

Human interleukin (IL)-36 receptor antagonist (IL-36RA; IL-1F5) is a secreted protein that belongs to the IL-1 family of cytokines and is involved in innate immunity and anti-inflammatory immune responses. IL-36RA inhibits the activity of IL-36 cytokines (IL-36α, IL-36β, and IL-36γ) by binding to the IL-36 receptor (IL-36R; IL1RL2) and preventing the assembly of functional IL-36 receptor complexes. IL-36RA thus exerts its anti-inflammatory properties by inhibiting MAPK and NF-κB activation. IL-36 cytokines are expressed by a variety of cell types including monocytes, dendritic cells (DCs), and keratinocytes and are most prevalent in barrier tissues. In this regard, IL-36RA has been shown to play a role in regulating inflammation in skin, gastrointestinal tract, and the lungs. IL-36RA deficiency has been associated with delayed skin wound healing in mouse models and has been linked to the occurrence of pustular psoriasis in humans.

#### 1.2 Applications

- Human IL-36RA is optimized for use in cell culture and functional assays.

Optimal concentration for a specific application should be determined by a dose-response experiment.

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