

Datasheet for ABIN3136582
IL-27 Protein (AA 29-234) (His tag)



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1 Image

Overview

| | |
|-------------------------------|--|
| Quantity: | 1 mg |
| Target: | IL-27 (IL27) |
| Protein Characteristics: | AA 29-234 |
| Origin: | Mouse |
| Source: | Escherichia coli (E. coli) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This IL-27 protein is labelled with His tag. |
| Application: | Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys) |

Product Details

Sequence: FPTDPLSLQE LRREFTVSLY LARKLLSEVQ GYVHSFAESR LPGVNLDLLP LGYHLPNVSL
TFQAWHHLSL SERLCFLATT LRPFPAMLGG LGTQGTWTSS EREQLWAMRL DLRDLHRHLR
FQVLAAGFKC SKEEEDKEEE EEEEEEEKKL PLGALGGPNQ VSSQVSWPQL LYTYQLLHSL
ELVLSRAVRD LLLLSPRRP GSAWDS

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

- Characteristics:
- Made in Germany - from design to production - by highly experienced protein experts.
 - Mouse IL27 Protein (raised in E. Coli) purified by multi-step, protein-specific process to ensure crystallization grade.
 - State-of-the-art algorithm used for plasmid design (Gene synthesis).

This protein is a made to order protein and will be made for the first time for your order. Our experts in the lab will ensure that you receive a correctly folded protein.

Product Details

The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

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| Purification: | Two step purification of proteins expressed in bacterial culture: <ol style="list-style-type: none">1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot. |
| Purity: | >95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot. |
| Sterility: | 0.22 µm filtered |
| Endotoxin Level: | Endotoxin has not been removed. Please contact us if you require endotoxin removal. |
| Grade: | Crystallography grade |

Target Details

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|-------------------|---|
| Target: | IL-27 (IL27) |
| Alternative Name: | IL27 (IL27 Products) |
| Background: | Associates with EBI3 to form the IL-27 interleukin, a heterodimeric cytokine which functions in innate immunity. IL-27 has pro- and anti-inflammatory properties, that can regulate T-helper cell development, suppress T-cell proliferation, stimulate cytotoxic T-cell activity, induce isotype |

Target Details

switching in B-cells, and that has diverse effects on innate immune cells. Among its target cells are CD4 T-helper cells which can differentiate in type 1 effector cells (TH1), type 2 effector cells (TH2) and IL17 producing helper T-cells (TH17). It drives rapid clonal expansion of naive but not memory CD4 T-cells. It also strongly synergizes with IL-12 to trigger interferon-gamma/IFN-gamma production of naive CD4 T-cells, binds to the cytokine receptor WSX-1/TCCR which appears to be required but not sufficient for IL-27-mediated signal transduction. IL-27 potentiate the early phase of TH1 response and suppress TH2 and TH17 differentiation. It induces the differentiation of TH1 cells via two distinct pathways, p38 MAPK/TBX21- and ICAM1/ITGAL/ERK-dependent pathways. It also induces STAT1, STAT3, STAT4 and STAT5 phosphorylation and activates TBX21/T-Bet via STAT1 with resulting IL12RB2 up-regulation, an event crucial to TH1 cell commitment. It suppresses the expression of GATA3, the inhibitor TH1 cells development. In CD8 T-cells, it activates STATs as well as GZMB. IL-27 reveals to be a potent inhibitor of TH17 cell development and of IL-17 production. Indeed IL27 alone is also able to inhibit the production of IL17 by CD4 and CD8 T-cells. While IL-27 suppressed the development of proinflammatory Th17 cells via STAT1, it inhibits the development of anti-inflammatory inducible regulatory T-cells, iTreg, independently of STAT1. IL-27 has also an effect on cytokine production, it suppresses proinflammatory cytokine production such as IL2, IL4, IL5 and IL6 and activates suppressors of cytokine signaling such as SOCS1 and SOCS3. Apart from suppression of cytokine production, IL-27 also antagonizes the effects of some cytokines such as IL6 through direct effects on T-cells. Another important role of IL-27 is its antitumor activity as well as its antiangiogenic activity with activation of production of antiangiogenic chemokines such as IP-10/CXCL10 and MIG/CXCL9.

{ECO:0000269|PubMed:12121660, ECO:0000269|PubMed:14565860, ECO:0000269|PubMed:14657353, ECO:0000269|PubMed:14871851, ECO:0000269|PubMed:15585838, ECO:0000269|PubMed:15688376, ECO:0000269|PubMed:16034109, ECO:0000269|PubMed:16365415, ECO:0000269|PubMed:16493033, ECO:0000269|PubMed:16751375, ECO:0000269|PubMed:16906166, ECO:0000269|PubMed:16906167, ECO:0000269|PubMed:17015723, ECO:0000269|PubMed:17114427, ECO:0000269|PubMed:17549733}.

Molecular Weight: 24.5 kDa Including tag.

UniProt: [Q8K3I6](#)

Application Details

Application Notes: In addition to the applications listed above we expect the protein to work for functional studies

Application Details

as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

Comment: Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

Images



Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process