



Monoclonal Anti-human IL-32 Antibody

Catalogue Number: MAB1011

ORDERING INFORMATION

Clone: A11-C9

Lot Number: LSY000-0001

Size: 100 ug

Formulation: Lyophilized powder

Storage: -20°C

Reconstitution: sterile PBS

Specificity: human IL-32

Immunogen: recombinant human IL-32 γ

Ig class: mouse IgG2a

Recommended Applications: FACS, IF

Figure 1. Immunofluorescent staining of IL-32 in human monocytic THP-1 cells. Human THP-1 cells were stained with monoclonal anti-human IL-32 to visualize endogenous IL-32.

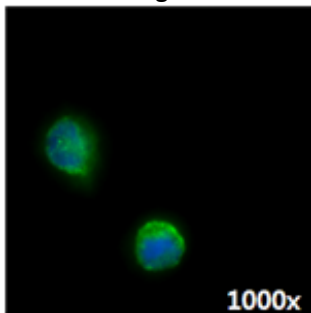
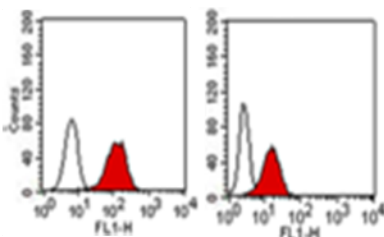


Figure 2. Flowcytometry of IL-32 with monoclonal anti-human IL-32. Surface of THP-1 (left) and U937 (right) cells were stained and flowcytomtry was performed.



Specifications and Use

Preparation

- This antibody was produced from a hybridoma resulting from the fusion of a mouse myeloma with B cells obtained from a mouse immunized with purified, E.coli-derived, recombinant IL-32 gamma. The IgG fraction of the tissue culture supernatant was purified by ligand affinity chromatography.

Endotoxin level

- < 1.0 EU per 1 μ g of the protein as determined by LAL method.

Formulation

- Supplied as lyophilized powder.
- Reconstitute in sterile PBS
- Centrifuge the vial before opening to prevent loss of the powder.

Storage

- Samples are stable up to 1 year from date of receipt at -20°C.
- Upon thawing, this protein can be stored under sterile conditions at 2 ~ 8°C for two weeks or at -70°C in a manual defrost freezer for three months without detectable loss of activity.
- Avoid repeated freeze-thaw cycles. Samples are recommended to be aliquot in small volumes and frozen for multiple uses.

Specificity

- This antibody was selected for its ability to recognize all isotypes of IL-32

Application

- FACS, IF

Background

Interleukin-32 gamma (IL-32 γ), a proinflammatory cytokine in previous term, natural killer cells transcript 4 (NK4) or tumor necrosis factor alpha (TNF α) inducing factor, is a 27 kDa, secretory glycoprotein. IL-32 γ is not categorized in any known cytokine family and the molecular character is seldom known (1). Nevertheless, the molecule induces potent proinflammatory cytokine like TNF α and IL-8 in human THP-1 cells and murine Raw 264.7 cells via the undiscovered receptor, and activates classic cytokine signaling pathways involving NF- κ B and p38-MAPK, which proves the molecule a cytokine (2). The pro-protein of human IL-32 contains 234 amino acids (aa) that is composed of a 30 aa signal peptide and 204 aa mature protein with 3 potential myristoylation sites and a potential N-linked glycosylation site. IL-32 γ is the representative protein among IL-32 isoforms (1, 2). There are 5 potential splice variants in IL-32 isoforms (3). IL-32 α is missing two splicing variant regions known in IL-32 γ (aa 19-64 and aa 154-210) while IL-32 β lacks aa 19-64 and IL-32 δ , aa 19-64. IL-32 ϵ and IL-32 ζ are novel isoforms that have not been fully characterized. Human IL-32 γ is active in mouse cells even though no rodent orthologs have been reported (2). The receptor of IL-32 has not been found, yet it was proved that neutrophil proteinase 3 (PR3) is bound to isoform IL-32 α by ligand affinity chromatography (4, 5). IL-32 is involved in activation induced cell death in T cells and differentiation of monocytes to macrophages in unknown lineages (3, 6). Furthermore IL-32 is highly expressed in numerous pathologic tissues including the synovial tissue in rheumatoid arthritis (4, 7) and epithelial cells of human colons in Crohn's disease (4). siRNA method proved that decrement of endogenous IL-32 in primary human blood monocytes leads the down regulation of IFN γ , TNF α and IL-6, which means IL-32 is upstream in monocytic cytokine cascade (8). Increased levels of IL-32 may play a protective role in human immunodeficiency virus (HIV) infection by suppressing the viral replication (9). Moreover, mycobacteria species including *M. tuberculosis* potentiates the production of IL-32 from human monocytes and macrophages (10).

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3. C. Goda *et al.*, *Int Immunol* **18**, 233 (Feb, 2006).
4. C. A. Dinarello, S. H. Kim, *Ann Rheum Dis* **65 Suppl 3**, iii61 (Nov, 2006).
5. D. Novick *et al.*, *Proc Natl Acad Sci U S A* **103**, 3316 (Feb 28, 2006).
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7. L. A. Joosten *et al.*, *Proc Natl Acad Sci U S A* **103**, 3298 (Feb 28, 2006).
8. M. F. Nold *et al.*, *J Immunol* **181**, 557 (Jul 1, 2008).
9. S. T. Rasool *et al.*, *Immunol Lett* **117**, 161 (May 15, 2008).
10. M. G. Netea *et al.*, *PLoS Med* **3**, e277 (Aug, 2006).

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