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IL-1a Antibody

Purified Mouse Monoclonal Antibody
Catalog # AO1010a

Product Information

Application	WB, E
Primary Accession	P01583
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Clone Names	3A6F11; 1F3B3
Isotype	IgG2a
Calculated MW	30607
Description	Interleukin-1alpha is a member of the interleukin 1 cytokine family. It is a pleiotropic cytokine involved in various immune responses, inflammatory processes, and hematopoiesis. This cytokine is produced by monocytes and macrophages as a proprotein, which is proteolytically processed and released in response to cell injury, and thus induces apoptosis. IL-1 alpha and eight other interleukin 1 family genes form a cytokine gene cluster on chromosome 2. It has been suggested that the polymorphism of these genes is associated with rheumatoid arthritis and Alzheimer's disease
Immunogen	Purified recombinant fragment of human IL1a expressed in E. Coli.
Formulation	Ascitic fluid containing 0.03% sodium azide.

Additional Information

Gene ID	3552
Other Names	Interleukin-1 alpha, IL-1 alpha, Hematopoietin-1, IL1A, IL1F1
Dilution	WB~~1/500 - 1/2000 E~~N/A
Storage	Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	IL-1a Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	IL1A
Synonyms	IL1F1

Function	Cytokine constitutively present intracellularly in nearly all resting non-hematopoietic cells that plays an important role in inflammation and bridges the innate and adaptive immune systems (PubMed:26439902). After binding to its receptor IL1R1 together with its accessory protein IL1RAP, forms the high affinity interleukin-1 receptor complex (PubMed:17507369, PubMed:2950091). Signaling involves the recruitment of adapter molecules such as MYD88, IRAK1 or IRAK4 (PubMed:17507369). In turn, mediates the activation of NF-kappa-B and the three MAPK pathways p38, p42/p44 and JNK pathways (PubMed:14687581). Within the cell, acts as an alarmin and cell death results in its liberation in the extracellular space after disruption of the cell membrane to induce inflammation and alert the host to injury or damage (PubMed:15679580). In addition to its role as a danger signal, which occurs when the cytokine is passively released by cell necrosis, directly senses DNA damage and acts as a signal for genotoxic stress without loss of cell integrity (PubMed:26439902).
Cellular Location	Nucleus. Cytoplasm. Secreted Note=The lack of a specific hydrophobic segment in the precursor sequence suggests that IL-1 is released by damaged cells or is secreted by a mechanism differing from that used for other secretory proteins The secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10; it results in protein translocation from the cytoplasm into the ERGIC (endoplasmic reticulum-Golgi intermediate compartment) followed by vesicle entry and secretion (PubMed:32272059) Recruited to DNA damage sites and secreted after genotoxic stress

References

1. Du,Y.; et al. 2000. Neurology 55: 480-484. 2. Grimaldi, L. et al. Ann. Neurol. 47: 361-365, 2000.

Images

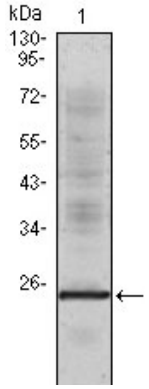

Figure 1: Western blot analysis using IL1a mouse mAb against truncated IL1a recombinant protein.