

Cytokines

Human Recombinant IL-1RA, ACF

Interleukin 1 receptor antagonist,
animal component-free



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Catalog # 100-0939
100-0940

100 µg
1000 µg

Product Description

Interleukin 1 receptor antagonist (IL-1RA) is a member of the IL-1 family that binds to IL-1 receptors but does not induce any intracellular signaling (Arend et al.). IL-1RA is a natural regulator of IL-1's biological activity. It binds to the IL-1 receptors with similar affinity as IL-1, thereby inhibiting the proinflammatory activities of IL-1 α and IL-1 β (Kinne et al.). In particular, mesenchymal stem cells have been shown to enhance tissue repair in an IL-1RA-dependent manner through the suppression of IL-1 β production in dermal macrophages and enhanced expansion of immunosuppressive regulatory T cells in the skin (Harrell et al.). IL-1RA has also been shown to help in the treatment of rheumatoid arthritis (Cutolo), sepsis, asthma (Mao et al.), and inflammatory bowel diseases (Dosh et al.). This product is animal component-free.

Product Information

Alternative Names: DIRA, ICIL-1RA, IL-1F3, IL-1Ra, IL-1ra3, IL-1RN, IL1F3, IL1ra, IL1RN, IRAP, MVCD4, Interleukin 1RA, Interleukin 1 receptor antagonist

Accession Number: P18510 (Arg26-Glu177) was expressed with an additional Met

Amino Acid Sequence: MRPSGRKSSK MQAFRIWDVN QKTFYLRNNQ LVAGYLQGPV VNLEEKIDVV PIEPHALFLG IHGGKMCLSC VKSGDETRLQ LEAVNITDLS ENRKQDKRFA FIRSDSGPTT SFESAACPGW FLCTAMEADQ PVSLTNMPDE GVMVTKFYFQ EDE

Predicted Molecular Mass: 17.3 kDa

Species: Human

Formulation: Lyophilized from a sterile-filtered aqueous solution containing 10 mM sodium phosphate, pH 7.5.

Source: *E. coli*

Specifications

Activity: The specific activity is $\geq 2.0 \times 10^4$ units/mg ($EC_{50} \leq 50$ ng/mL) as determined by inhibition of human IL-1 alpha-induced proliferation of D10.G4.1 cells.

Purity: $\geq 95\%$

Endotoxin Level: Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1.0 EU/ μ g protein.

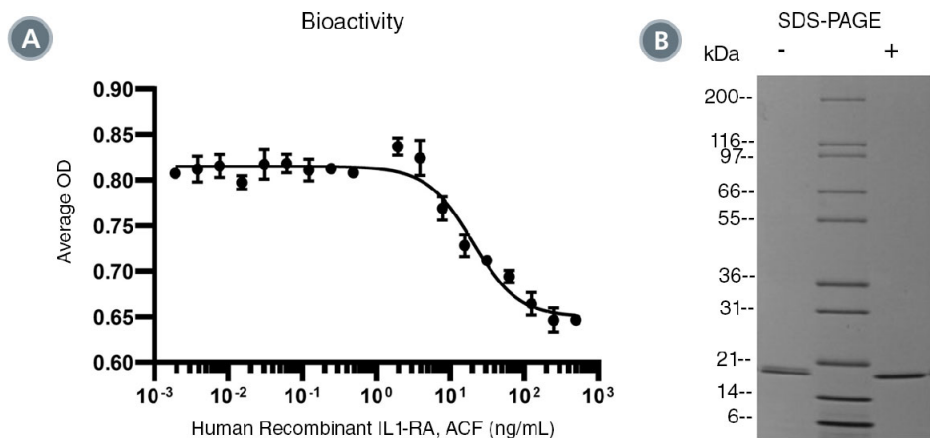
Preparation and Storage

Storage: Store at -20°C to -80°C.

Stability: Stable as supplied for 12 months from date of receipt.

Preparation: Centrifuge vial before opening. Reconstitute the product in sterile water to at least 0.1 mg/mL by pipetting the solution down the sides of the vial. Do not vortex. The effect of storage of stock solution on product performance should be tested for each application. As a general guide, do not store at 2 - 8°C for more than 1 month or at -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-1RA, ACF was tested by its ability to inhibit human IL-1 alpha-induced proliferation of D10.G4.1 cells. The EC50 is defined as the effective concentration of growth factor at which cell proliferation is at 50% of maximum. The EC50 in the above example is 18.7 ng/mL.

(B) Human Recombinant IL-1RA, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-1RA, ACF has a predicted molecular mass of 17.3 kDa.

Related Products

For a complete list of cytokines, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/cytokines or contact us at techsupport@stemcell.com.

References

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- Kinne RW et al. (2007) Cells of the synovium in rheumatoid arthritis. Macrophages. *Arthritis Res Ther* 9(6): 224.
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