

Cytokines

Human Recombinant IL-1 alpha, ACF

Interleukin 1 alpha, animal
component-free

Catalog #	78219	10 µg
	78219.1	100 µg
	78219.2	500 µg
	78219.3	1000 µg



Scientists Helping Scientists™ | WWW.STEMCELL.COM

TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713

INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM

FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

Product Description

Interleukin 1 alpha (IL-1 α) is a member of the IL-1 family and is a dual-function cytokine. Both the unprocessed precursor and a processed IL-1 α protein signal through IL-1 receptor type 1 (IL-1R1). Various cells, including keratinocytes, thymic epithelium, hepatocytes, endothelial cells, fibroblasts, and the epithelial cells of mucous membranes, have high levels of intracellular IL-1 α precursor. The precursor is also expressed on the surface of monocytes and B lymphocytes (Netea et al.). IL-1 α recruits infiltrating cells to a site of injury during necrosis and plays an important role during processes of sterile inflammation (Cohen et al.; Rider et al.). During hypoxia, IL-1 α contributes to angiogenesis (Carmi et al.). Studies in mice show that IL-1 α is produced by microglia-like cells after ischemic brain injury, which contributes to inflammation (Luheshi et al.). This product is animal component-free.

Product Information

Alternative Names:	BAF, B-cell-activating factor, Epidermal cell-derived thymocyte-activating factor, ETAF, FAF, Fibroblast-activating factor, IL-1F1, LAF, LEM, Leukocyte endogenous mediator, Lymphocyte-activating factor, MCF, Mononuclear cell factor
Accession Number:	P01583
Amino Acid Sequence:	SAPFSFLSNV KYNFMRIIKY EFILNDALNQ SIIRANDQYL TAAALHNLDE AVKFDMGAYK SSKDDAKITVILRISKTLQY VTAQDEDQPV LLKEMPEIPK TITGSETNLL FFWETHGTKN YFTSVAHPNL FIATKQDYWW CLAGGPPSIT DFQILENQA
Predicted Molecular Mass:	18.0 kDa
Species:	Human
Cross Reactivity:	Mouse
Formulation:	Lyophilized from a sterile-filtered solution containing sodium phosphate, pH 7.5.
Source:	E. coli

Specifications

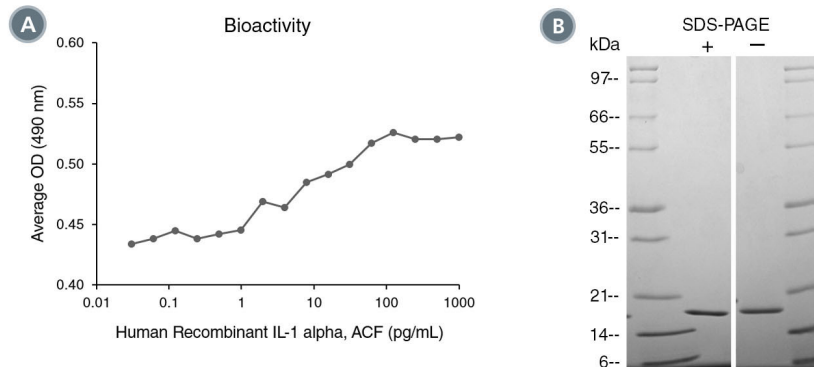
Activity:	The specific activity is $\geq 2.0 \times 10^7$ units/mg ($EC_{50} \leq 50$ pg/mL) as determined by a cell proliferation assay using D10.G4.1 cells.
Purity:	$\geq 95\%$
Endotoxin Level:	Measured by kinetic Limulus amoebocyte lysate (LAL) analysis and is ≤ 1 EU/ μ g protein.

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.

OPTIONAL: After reconstitution, if product will not be used immediately, dilute with concentrated bovine serum albumin (BSA) to a final BSA concentration of 0.1%. 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 -20°C to -80°C for more than 3 months. Avoid repeated freeze-thaw cycles.

Data



(A) The biological activity of Human Recombinant IL-1 alpha, ACF was tested by its ability to promote the proliferation of D10.G4.1 cells. Cell proliferation was measured using a fluorometric assay method. The EC₅₀ is defined as the effective concentration of the growth factor at which cell proliferation is at 50% of maximum. The EC₅₀ in the above example is 7.7 pg/mL.

(B) 1 µg of Human Recombinant IL-1 alpha, ACF was resolved with SDS-PAGE under reducing (+) and non-reducing (-) conditions and visualized by Coomassie Blue staining. Human Recombinant IL-1 alpha, ACF has a predicted molecular mass of 18.0 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

- Carmi Y et al. (2009) The role of macrophage-derived IL-1 in induction and maintenance of angiogenesis. *J Immunol* 183(7): 4705–14.
- Cohen I et al. (2010) Differential release of chromatin-bound IL-1alpha discriminates between necrotic and apoptotic cell death by the ability to induce sterile inflammation. *Proc Natl Acad Sci USA* 107(6): 2574–9.
- Luheshi NM et al. (2011) Interleukin-1α expression precedes IL-1β after ischemic brain injury and is localised to areas of focal neuronal loss and penumbral tissues. *J Neuroinflammation* 8(1): 186.
- Netea MG et al. (2015) Inflammasome-independent regulation of IL-1-family cytokines. *Annu Rev Immunol* 33(1): 49–77.
- Rider P et al. (2011) IL-1α and IL-1β recruit different myeloid cells and promote different stages of sterile inflammation. *J Immunol* 187(9): 4835–43.

STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2019 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design, and Scientists Helping Scientists are trademarks of STEMCELL Technologies Canada Inc. All other trademarks are the property of their respective holders. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.