

RELM α Murine, Recombinant

Product Data Sheet

Type: Recombinant	Cat. No.:	
Source: E. coli	RBG20115005	(5 μ g)
Species: Mouse	RBG20115025	(25 μ g)
Other names: Resistin-like alpha, Cysteine-rich secreted protein FIZZ1	RBG20115100	(100 μ g)

Storage: -20°C

Introduction to the Molecule

Bronchoalveolar lavage fluid from mice with experimentally induced allergic pulmonary inflammation contains a novel 9.4 kDa cysteine-rich secreted protein, RELM-alpha (FIZZ1, found in inflammatory zone). RELM-alpha is a secreted protein that has a restricted tissue distribution with highest levels in adipose tissue stroma. Murine RELM-alpha (FIZZ1) is the founding member of a new gene family including two other murine genes expressed, respectively, in intestinal crypt epithelium (RELM-beta) and white adipose tissue (Resistin), and two related human genes.

RELMalpha inhibits the differentiation of 3T3-L1 preadipocytes into adipocytes but has no effect on proliferation of 3T3-L1 preadipocytes. RELMalpha is able to form heterooligomers with resistin but not RELMbeta. Since RELMalpha is expressed by adipose tissue and it is a secreted factor, our findings suggest that RELMalpha may be involved in the control of the adipogenesis as well as in the process of muscle differentiation.

In the lung, RELM-alpha is induced by hypoxia and was renamed as hypoxia-induced mitogenic factor (HIMF). HIMF strongly activated Akt phosphorylation. The phosphatidylinositol 3-kinase (PI3K) inhibitor LY294002 (10 micromol/L) inhibited HIMF-activated Akt phosphorylation. It also inhibited HIMF stimulated RPSM proliferation. Thus, the PI3K/Akt pathway, at least in part, mediates the proliferative effect of HIMF. Further studies showed that HIMF had angiogenic and vasoconstrictive properties. HIMF increased pulmonary arterial pressure and vascular resistance. Further studies suggest that HIMF regulates apoptosis and may participate in lung alveolarization and maturation.

Reconstitution

Centrifuge the vial prior to opening. Reconstitute in water to a concentration of 0.1-1.0 mg/ml. Do not vortex. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.

Amino Acid Sequence

MDETIEIIVE NKVKELLANP ANYPSTVTKT LSCTSVKTMN RWASCPAGMT ATGCACGFAC GSWEIQSGDT CNCLCLLVLDW
TTARCCQLS

Source

E. coli

Endotoxin

Endotoxin level is < 1 ng/ μ g of protein (< 1 EU/ μ g)

Formulation

Sterile filtered through a 0.2 micron filter. Lyophilized from 10 mM Tris, pH 7.5 + 25 mM NaCl.

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