

## RELM a Mouse, His

**Description:** RELM-alpha Mouse Recombinant is manufactured with a signal sequence of phage fd (20aa) and C-terminal fusion of flagTag (10aa). The RELM-alpha Flag-Tagged Fusion Protein is a 13.3 kDa protein containing 91 amino acid residues with 30 additional amino acid residues - signal sequence of phage fd, flagTag (underlined). MKKLLFAIPL VVPFYSHSTM VNTDETIEII VENKVKELLA NPANYPSTVT TLSCTSVKT MNRWASCPAG MTATGCACGF ACGSWEIQSG DTCNCLCLLV DWTARCCQL SLEDYKDDDD K.

**Synonyms:** Resistin-like alpha, RELMalpha, Cysteine-rich secreted protein FIZZ1, Parasite-induced macrophage novel gene 1 protein, Cysteine-rich secreted protein A12-gamma, RELM-a.

**Source:** Escherichia Coli.

**Purity:** Greater than 95% as determined by SDS-PAGE.

**Purification Method:**

Two-step procedure using size exclusion chromatography before and after refolding.

**Specificity:**

The amino acid sequence of the RELM-alpha Mouse recombinant is 100% homologous to the amino acid sequence of the RELM-alpha Mouse.

**Formulation:**

Sterile filtered and lyophilized from 0.5 mg/ml in 5mM Tris pH 7.5, 25mM NaCl.

**Stability:**

Store lyophilized protein at -20°C. Aliquot the product after reconstitution to avoid repeated freezing/thawing cycles. Reconstituted protein can be stored at 4°C for a limited period of time; it does not show any change after two weeks at 4°C.

**Usage:**

NeoBiolab's products are furnished for LABORATORY RESEARCH USE ONLY. The product may not be used as drugs, agricultural or pesticidal products, food additives or household chemicals.

**Solubility:**

Add 0.2 ml of deionized H<sub>2</sub>O and let the lyophilized pellet dissolve completely.

**Introduction:**

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

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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.

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