ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

RELM-alpha/FIZZ1 Antibodies

Cat. RELMA12-P	**Human** RELM-alpha control/blocking peptide # 2	**SIZE**: 100 ug
Cat. RELMA12-S	**Rabbit** Anti-Human RELM-alpha antiserum # 2	**SIZE**: 100 ul
Cat. RELMA12-A	**Rabbit** Anti-Human RELM-alpha Ig G # 2 (affinity pure)	**SIZE**: 100 ug

Resistance to insulin characterizes type 2 diabetes, the most common form of diabetes. There is a strong link between type 2 diabetes and obesity, as most patients tend to be obese. Thiozolidinediones (TZDs), a new class of anti-diabetic, enhances target-tissue sensitivity to insulin. A screen of genes down regulated by TZD in adipocyte led to the discovery of a new protein hormone called **resistin** (for resistance to insulin). Resistin, specifically produced and secreted by adipocyte, is present at elevated levels in the blood of obese animals, and is down regulated by fasting and anti-diabetic drugs. Antibody to resistin stimulated glucose uptake and improved insulin sensitivity in obese mice. Some other protein related to resistin has been called resistin-related molecules (**RELM-alpha and beta**). Resistin family of proteins was also identified as proteins (**FIZZ1-3**, for Found in Inflammatory zone) involved in allegory and inflammation.

RELM-alpha/FIZZ1/PMNG1 (Parasite-induced Macrophage Novel Gene 1 (prepeptides: mouse/rat 111 aa; ~77% identity) is 63% related to resistin at the C-terminus (38 aa). The N-terminus of RELM-alpha is less conserved at the N-terminus. RELM-alpha mRNA was most abundant in white adipose tissue. It is also expressed in mammary tissue with significant fat pads. Unlike resistin, RELM-alpha is not expressed in 3T3-L1 adipocyte or in preadipocytes. It is also found in heart, lung and tongue, where resistin is absent. In mice, RELM-alpha/FIZZ1 is found at low levels in a subset of bronchial epithelial cells and in non-neuronal cells adjacent neurovascular bundles in the peribronchial stroma, and in the wall of the large and small bowel. FIZZ1 expression is induced hypertrophic, hyperplastic bronchial epithelium.

FUNCTION: Probable hormone.
SUBCELLULAR LOCATION: Secreted.
SIMILARITY: Belongs to the resistin/FIZZ family.
Protein name Resistin-like beta [Precursor]
Synonyms RELMbeta
Cysteine-rich secreted protein FIZZ2
Colon and small intestine-specific cysteine-rich protein
Cysteine-rich secreted protein A12-alpha-like 1
Colon carcinoma-related gene protein
Gene name Name: RETNLB; Synonyms: CCRG, FIZZ2, HXCP2, RETNL2
ORFNames: UNQ408/PRO770

Source of Antigen and Antibodies

Antigen	13-aa peptide from **human RELM-alpha (1)**; (protein accession #Q9BQ08 , refs 1) **Designation (# RELMA12-P, control/blocking peptide**) conjugated to KLH; Epitope location ~N-terminus
Ab Host/type	Rabbit, Polyclonal Aff pure IgG, (Cat # **RELMA12**-A) purified over the antigen column
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Western Blotting 1-5 ug/ml for affinity pure using Chemiluminescence technique.

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 5-10 ug/ml in formaldehyde fixed tissue.

Specificity & Cross-reactivity

Human RELMA12-P sequence has no significant homology with mouse/rat RELM-alpha. We recommend the use of antibody Cat # RELMA11-S that is raised to mouse RELM-alpha sequence. No significant sequence RELMA12-P was found with resistin or RELM-beta. Antibody crossreactivity in various species is not established. We recommend the use of control peptide in antibody blocking experiments to establish antibody specificity. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity

General References: (1) Steppan CM (2001) Nature 409, 307; Steppan CM (2001) PNAS 98, 502; Holcomb IN (2000) EMBO J. 19, 4046-4055; Kim K-H et al (2001) J. Biol. Chem. 276, 11252-11256

*This product is for in vitro research use only.

Related material available from ADI

Antibodies to Leptin, leptin receptor, Orexins, CART, UCPs, Adipsin, Acc1/2, FABP etc. Acrp30/AdipQ etc, **Resistin, Leptin, Adiponectin ELISA Kits**

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, S an Antonio, T X 7 8 24 4 , U S A;

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400 Fax: +91-11-42208444 Email: customerservice@lifetechindia.com Website: www.lifetechindia.com