ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Life Technologies™ Your Molecular & Cell Technology Partner

Purified Rat Resistin/ADSF/FIZZ3 Proteins

Cat. RSTN18-R-5	**Rat** resistin purified protein	**SIZE**: 5 ug
Cat. RSTN18-R-25	**Rat** resistin purified protein	**SIZE**: 25 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. 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.

Resistin is also described as serine/cysteine-rich Adipocyte-Specific Secretory Factor (**ADSF or FIZZ3**). Resistin (pre peptide length: human 108 aa; mouse/rat 114 aa; mol wt ~12.5 kDa) is characterized by the presence of a hydrophobic signal peptide that is cleaved before its secretion. Resistin proteins show ~55% homology in human and mouse. It is 45-55% related to **RELM-alpha/FIZZ1/PMNG1 (Parasite-induced Macrophage Novel Gene 1).** 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 to neurovascular bundles in the peribronchial stroma, and in the wall of the large and small bowel.

Source of Protein and controls

Rat resistin protein (94-aa) was expressed in E. coli as N-terminal His-tag fusion protein and purified to >98%. Purified protein is a homodimer of ~20 Kda in native state and 11.9 kda in denatured form.

Rat Resistin-his tag sequence (his-tag seq in bold, 16-aa)

MRGSHHHHHH GMASHMPSMS LCPMDEAISK KINQDFSSLL PAAMKNTVLH CWSVSSRGRL ASCPEGTTVT SCSCGSGCGS WDVREDTMCH CQCGSIDWTA ARCCTLRVGS

Purified Rat (cat # RSTN18-R-5 & cat # RSTN18-R25) and **human** (cat # RSTN16-R & cat # RSTN16-R-25) **resistin** proteins are available in carrier free, and any additive free form .lyophilized in 20 mM Tris, pH 8.0 buffer. Reconstitute in water (at no <100 ug/ml) or appropriate buffer and vortex at room temp. The proteins can be realiquoted and stored frozen at –20oC or below. This preparation is not sterile. It has very low endotoxin level (<0.1 ng/1 ug of protein). The **biological activity** of resistin has not been tested.

Stability: 6-12 months at –20oC or below.

Shipping: 4oC for solutions and room temp for powder.

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

(2) Citations of ADI's Antibodies to resistin(see web site for updated list)

Degawa-Yamauchi M 2003 Serum Resistin (FIZZ3) Protein Is Increased in Obese Humans J. Clin. Endocrinol. Metab., Nov 2003; 88: 5452 – 5455

Pravenec M 2003 Transgenic and recombinant resistin impair skeletal muscle glucose metabolism in the spontaneously hypertensive rat J. Biol. Chem., 278, 45209-45215

*This product is for in vitro research use only.

Related material available from ADI

Human and mouse resistin ELISA kits

Human and mouse Resistin proteins

Antibodies to Leptin, leptin receptor, Orexins, CART, UCPs, Adipsin, Acc1/2, FABP etc. Acrp30/AdipQ etc

Western Blot recycling kit (Use the same blot to probe with multiple resistin antibodies)

ReadyBlot brain, Kidney, and GI Tract Protein Blots

RSTN18-R-5-25 71213A

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