

How does insulin influence resistin?

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Obesity is a worldwide health problem directly linked to several diseases such as hypertension and type 2 diabetes. Resistin is a cysteine-rich hormone mainly secreted by adipose tissues and may form a biochemical link between obesity and type 2 diabetes.

It has been reported insulin inhibits resistin mRNA level in 3T3-L1, which does not support a role for resistin in insulin resistance. Does resistin play a role in insulin resistance? Is insulin the major regulator of resistin?

A research article to be published on January 7, 2008 in the World Journal of Gastroenterology (volume 14, issue 1) addresses these questions. The research team led by Dr. Guo Xi-Rong studied the resistin action in vitro and resistin secretion. In addition to this, diet-induced obese rats were used to study the relationship between insulin, resistin and insulin resistance.

One result reported by the investigators was resistin expression and secretion was enhanced during 3T3-L1 pre-adipocytes differentiation, insulin inhibits resistin expression and secretion. Insulin does not support a role for resistin in insulin resistance.

The result showed resistin induces cellular insulin resistance in H4IIE hepatocytes and L6 rat myoblasts. Serum resistin negatively correlates to insulin sensitivity, not to serum insulin in diet-induced obesity rats.

The results of this study suggest insulin inhibits resistin secretion and resistin induces insulin sensitivity. In vivo study shows serum resistin correlated to rat insulin sensitivity, so insulin is not the major regulator of resistin. Resistin induced hepatocytes insulin resistance takes part in diet induced insulin resistance.

Source: World Journal of Gastroenterology

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