Decreased resistin expression in mice with different sensitivities to a high-fat diet

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Résumé en anglais	The regulation of resistin, a new adipose-derived circulating factor, is the subject of controversy. In particular, the question of its modulation in obesity led to opposite results reported by two different groups. In the current study, we assayed adipocyte resistin mRNA using fluorescent real-time RT-PCR. We studied the expression of resistin in mice which are differently sensitive to diet-induced obesity: the FVB/n strain, which poorly responds to high-fat diet and transgenic mice that express human alpha 2A-AR in adipose tissue in the absence of beta 3-adrenergic receptor (AR) under the FVB genetic background which are highly sensitive to high-fat diet and develop hyperplastic obesity. We observed that FVB mice, which have no significant increased body weight after an 8-week high-fat diet period, exhibited no alteration of resistin expression. In contrast, the transgenic mice developing high-fat diet-induced obesity exhibited markedly downregulated adipocyte resistin mRNA. We also showed that obesity induced by gold thioglucose injection in FVB/n mice reduces the expression of resistin in isolated adipocytes. This argues for decreased expression of resistin as a hallmark of obesity. Moreover, our data show that feeding a high-fat diet is not a primary determinant of resistin regulation.
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