Leptin receptor

Leptin receptor also known as **LEP-R** or **OB-R** is a protein that in humans is encoded by the *LEPR* gene.[1][2] LEP-R functions as a receptor for the fat cell-specific hormone leptin. LEP-R has also been designated as **CD295** (cluster of differentiation 295).

After co-discovering the Leptin gene with Jeffrey Friedman et al. in 1994, which involved a reverse genetic/positional cloning strategy to clone *ob* and *db*, Rudolph Leibel, working with collaborators at Millennium Pharmaceuticals and colleague Streamson Chua, confirmed cloning of the leptin receptor by demonstrating that an apparent leptin receptor cloned from a choroid plexus library using leptin as ligand, mapped to a physical map that included *db* and *fa*.[3]

1 Function

The leptin hormone regulates adipose-tissue mass through hypothalamus effects on hunger and energy use. It acts through the leptin receptor (LEP-R), a single-transmembrane-domain receptor of the cytokine receptor family.[4]

2 Clinical significance

Variations in the leptin receptor have been associated with obesity[5][6] and with increased susceptibility to *Entamoeba histolytica* infections.[7]

3 Animals models

The db/db mouse is a model of obesity, diabetes, and dyslipidemia wherein leptin receptor activity is deficient because the mice are homozygous for a point mutation in the gene for the leptin receptor.[8] In db/db mice, induced swimming helped to overcome obesity by upregulating uncoupling proteins.[9]

4 References

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6 External links

- LEPR protein, human at the US National Library of Medicine Medical Subject Headings (MeSH)

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