# Human Leptin/OB (hLeptin)

**Store at -20°C**

**#5719**

**For Research Use Only. Not for Use in Diagnostic Procedures.**

**MW (kDa):** 15  
**UniProt ID:** #P41159  
**Entrez-Gene Id:** 3952

**Background**

Leptin is a 16 kDa adipocyte-derived hormone that relays the status of the body's energy reserves to the hypothalamus, resulting in the suppression of appetite and modulation of energy expenditure (1,2). Leptin functions as a pleiotropic cytokine with multiple roles in immune function and reproduction (1-4). There are at least five isoforms of the leptin receptor, but only OB-Rb is signaling competent (1,2). OB-Rb is expressed on a number of cells, including T cells, B cells, keratinocytes, and others (1-6). Leptin/OB-Rb interactions induce Jak2, PI3K, Erk1/2, and Stat3 activation (1,2). OB-Rb is often highly expressed in many tumor types, including breast, pancreatic, and Tumor Initiating Stem Cells (TISCS), providing a potential mechanistic link for the tumor promoting effects of obesity (2,7).

**Endotoxin**

Less than 0.01 ng endotoxin/1 µg hLeptin.

**Purity**

>98% as determined by SDS-PAGE of 6 μg reduced (+) and non-reduced (-) recombinant hLeptin. All lots are greater than 98% pure.

**Source / Purification**

Recombinant human Leptin (hLeptin) Val22-Cys167 (Accession #NP_000221) was produced in *E.coli* at Cell Signaling Technology.

**Bioactivity**

The bioactivity of recombinant hLeptin was determined by its ability to induce TNF-α production from MCF7 cells. The minimum concentration used to obtain this effect was 50 µg/ml.

**Background**

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**Background References**


**Cross-Reactivity Key**

H: human  
M: mouse  
R: rat  
Hm: hamster  
Mk: monkey  
Vir: virus  
Mi: mink  
C: chicken  
Dm: D. melanogaster  
X: Xenopus  
Z: zebrafish  
B: bovine  
Pg: pig  
Sc: S. cerevisiae  
Ce: C. elegans  
Hr: horse  
GP: Guinea Pig  
Rab: rabbit  
All: all species expected

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