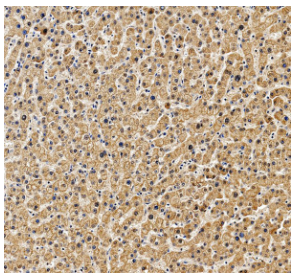
LEPR Polyclonal Antibody / Leptin Receptor Rabbit Antibody (R32730)

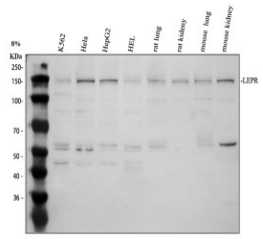
Catalog No.	Formulation	Size
R32730	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P48357
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml ELISA: 0.1-0.5ug/ml (human protein tested; request BSA-free format for coating)
Limitations	This LEPR Polyclonal Antibody / Leptin Receptor Rabbit Antibody is available for research use only.



LEPR Polyclonal Antibody by IHC in human liver. Immunohistochemistry of FFPE human liver tissue using LEPR Polyclonal Antibody at 2 ug/ml. Brown DAB staining is observed throughout the hepatocyte population, predominantly in the cytoplasm with a granular distribution and some peripheral membrane-associated staining. Nuclei are counterstained blue with hematoxylin. Heat-induced epitope retrieval was performed using EDTA buffer, pH 8.0, followed by overnight primary antibody incubation at 4oC. This Leptin Receptor Rabbit Antibody recognizes LEPR, a cytokine receptor involved in leptin-dependent signaling and metabolic homeostasis.



LEPR Polyclonal Antibody by WB in human, rat, and mouse samples. Western blot analysis using LEPR Polyclonal Antibody at 0.5 ug/ml. Lanes 1-4: human K562, HeLa, HepG2, and HEL cell lysates; lanes 5-6: rat lung and kidney; lanes 7-8: mouse lung and kidney. Each lane contained 30 ug protein separated by 8% SDS-PAGE under reducing conditions. A distinct band is detected at approximately 150 kDa across all eight samples, compared with the predicted LEPR molecular weight of 132.5 kDa. The higher apparent molecular weight may reflect receptor glycosylation. Additional lower-molecular-weight bands may reflect alternative LEPR isoforms, protein fragments, or nonspecific immunoreactivity. This Leptin Receptor Rabbit Antibody recognizes a cytokine receptor involved in metabolic regulation and JAK/STAT signaling.

Description

LEPR Polyclonal Antibody recognizes leptin receptor (LEPR), also known as Ob-R or CD295, a transmembrane protein responsible for mediating the physiological effects of leptin. Produced primarily by adipocytes, leptin communicates information about energy availability to the central nervous system and peripheral organs. LEPR belongs to the class I cytokine receptor family and participates in regulating appetite, energy expenditure, glucose metabolism, and endocrine function. The Leptin Receptor Rabbit Antibody targets a receptor that connects hormonal signaling with metabolic homeostasis.

The human LEPR gene is located on chromosome 1p31.3 and generates multiple receptor isoforms through alternative RNA splicing. These isoforms share an extracellular leptin-binding domain but differ in their intracellular regions and signaling capabilities. The long isoform, LEPRb or Ob-Rb, contains an extended cytoplasmic region required for efficient activation of downstream signaling pathways. Shorter isoforms participate in leptin transport and other receptor-associated functions. Although LEPR lacks intrinsic kinase activity, it associates with intracellular signaling proteins that transmit signals following ligand binding.

Leptin binding activates receptor-associated Janus kinase 2 (JAK2), initiating phosphorylation events that recruit downstream signaling proteins. STAT3 is a major mediator of leptin-dependent transcriptional responses involved in appetite suppression and energy balance. LEPR signaling can also influence STAT5, PI3K/AKT, and MAPK pathways, depending on cellular context. Negative regulators, including SOCS3 and PTP1B, help control receptor activity and maintain signaling balance. The Leptin Receptor Rabbit Antibody is relevant to research examining these interconnected regulatory mechanisms.

LEPR activity is particularly important in hypothalamic neuronal circuits that coordinate feeding behavior, energy expenditure, and neuroendocrine responses. Receptor signaling also contributes to reproductive physiology, immune regulation, and peripheral metabolic function. Genetic disruption of LEPR signaling can cause severe early-onset obesity and associated endocrine abnormalities. Reduced responsiveness to circulating leptin, commonly described as leptin resistance, is investigated in obesity, insulin resistance, and other metabolic disorders.

Research involving LEPR contributes to understanding hormonal regulation, metabolic homeostasis, cytokine receptor signaling, and communication between adipose tissue and other organs. Its role in JAK/STAT signaling connects leptin receptor biology with broader mechanisms of intracellular communication. NSJ Bioreagents offers antibodies targeting proteins involved in metabolic regulation and signal transduction. A LEPR Polyclonal Antibody provides a research tool for investigating leptin receptor expression and its relationship to energy balance, endocrine regulation, and cellular signaling.

For an alternative monoclonal antibody targeting this receptor, see our LEPR Antibody.

Application Notes

Optimal dilution of the LEPR Polyclonal Antibody / Leptin Receptor Rabbit Antibody should be determined by the researcher.

Immunogen

Amino acids 793-839 (KKYYIHDHFIPIEKYQFSLYPIFMEGVGKPKIINSFTQDDIEKHQSD) from the human protein were used as the immunogen for the LEPR Polyclonal Antibody.

Storage

After reconstitution, the LEPR Polyclonal Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Leptin Receptor antibody, Ob-R antibody, CD295 antibody, Leptin Binding Receptor antibody, Leptin Receptor Protein antibody, Obesity Receptor antibody

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