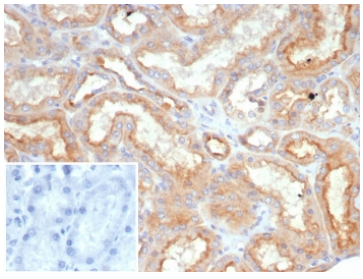
Ob-R Antibody LEPR/4545 / Leptin Receptor Mouse Monoclonal Antibody [clone LEPR/4545] (V4664)

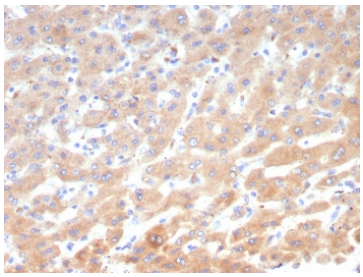
Catalog No.	Formulation	Size
V4664-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4664-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4664SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

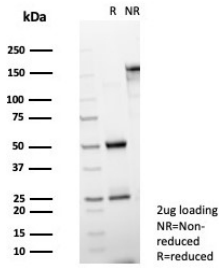
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2b, kappa
Clone Name	LEPR/4545
Purity	Protein A/G affinity
UniProt	P48357
Localization	Secreted, Cell surface
Applications	Immunohistochemistry (FFPE): 1-2ug/ml for 30 min at RT
Limitations	This Ob-R Antibody LEPR/4545 / Leptin Receptor Mouse Monoclonal Antibody is available for research use only.



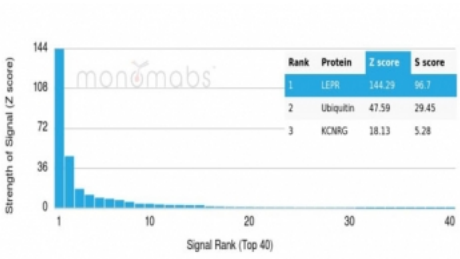
Ob-R Antibody LEPR/4545 by IHC in human kidney with negative control. Immunohistochemistry of FFPE human kidney tissue using Ob-R Antibody LEPR/4545. Brown immunostaining is observed prominently in renal tubular structures, with weaker staining in surrounding tissue. The inset shows a negative control in which PBS replaced the primary antibody, demonstrating substantially reduced staining. Heat-induced epitope retrieval was performed using 10 mM Tris and 1 mM EDTA, pH 9, for 20 minutes. This Leptin Receptor Mouse Monoclonal Antibody, clone LEPR/4545, recognizes Ob-R, a cytokine receptor involved in metabolic regulation and JAK/STAT signaling.



Ob-R Antibody LEPR/4545 by IHC in human hepatocellular carcinoma. Immunohistochemistry of FFPE human hepatocellular carcinoma tissue using Ob-R Antibody LEPR/4545. Brown immunostaining is visible throughout portions of the tumor tissue, predominantly within the cytoplasmic regions of cells, with variable staining intensity. Heat-induced epitope retrieval was performed by boiling sections in 10 mM Tris and 1 mM EDTA, pH 9, for 20 minutes. This Leptin Receptor Mouse Monoclonal Antibody targets Ob-R, a receptor involved in leptin-dependent signaling, cellular metabolism, and endocrine regulation.



SDS-PAGE analysis of purified, BSA-free Ob-R antibody (clone LEPR/4545) as confirmation of integrity and purity.



Ob-R Antibody LEPR/4545 by protein microarray validation. Protein microarray validation of Ob-R Antibody LEPR/4545 using a HuProt array containing more than 19,000 full-length human proteins. The analysis evaluates antibody binding to its intended target relative to other proteins represented on the array. The displayed results include a ranked signal distribution and specificity measurements, providing additional evidence for target recognition beyond tissue-based immunohistochemistry. This Leptin Receptor Mouse Monoclonal Antibody, clone LEPR/4545, recognizes Ob-R (LEPR/CD295), a cytokine receptor involved in metabolic homeostasis and JAK/STAT signaling.

Description

Ob-R Antibody LEPR/4545 recognizes the leptin receptor (LEPR), also known as Ob-R or CD295, a transmembrane protein responsible for mediating the biological effects of leptin. Leptin is a hormone produced primarily by adipose tissue that communicates information about energy availability to the central nervous system and peripheral organs. LEPR belongs to the class I cytokine receptor family and plays an important role in regulating appetite, energy expenditure, glucose metabolism, and endocrine function. The Leptin Receptor Mouse Monoclonal Antibody targets a receptor connecting hormonal signals 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 domain required for efficient activation of downstream signaling pathways. Shorter isoforms participate in leptin transport and other receptor-associated functions. LEPR lacks intrinsic kinase activity and instead relies on associated intracellular proteins to transmit signals following ligand binding.

Leptin binding promotes activation of 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 limit signaling intensity and duration. The Leptin Receptor Mouse Monoclonal Antibody is relevant to investigations of these interconnected regulatory mechanisms.

LEPR plays an important role 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 activity 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 metabolic disease research.

Studies involving LEPR contribute to understanding hormonal regulation, cytokine receptor signaling, metabolic homeostasis, 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. An Ob-R Antibody LEPR/4545 provides a research tool for investigating leptin receptor expression and its relationship to energy balance, endocrine function, and cellular signaling.

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

Application Notes

Optimal dilution of the Ob-R Antibody LEPR/4545 / Leptin Receptor Mouse Monoclonal Antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 335-425) from the human protein was used as the immunogen for the Ob-R Antibody LEPR/4545.

Storage

Aliquot the Ob-R Antibody LEPR/4545 and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

Leptin Receptor antibody, LEPR antibody, CD295 antibody, Leptin Binding Receptor antibody, Obesity Receptor antibody, Leptin Receptor Protein antibody

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