

NPRL2 Polyclonal Antibody
Catalog # AP73269**Specification****NPRL2 Polyclonal Antibody - Product Information**

Application	WB
Primary Accession	Q8WTW4
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal

NPRL2 Polyclonal Antibody - Additional Information**Gene ID** 10641**Other Names**

NPRL2; TUSC4; Nitrogen permease regulator 2-like protein; NPR2-like protein; Gene 21 protein; G21 protein; Tumor suppressor candidate 4

Dilution

WB~~Western Blot: 1/500 - 1/2000. ELISA: 1/20000. Not yet tested in other applications.

Format

Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.

Storage Conditions

-20°C

NPRL2 Polyclonal Antibody - Protein Information**Name** NPRL2 {ECO:0000303|PubMed:18616680, ECO:0000312|HGNC:HGNC:24969}**Function**

Catalytic component of the GATOR1 complex, a multiprotein complex that functions as an inhibitor of the amino acid-sensing branch of the mTORC1 pathway (PubMed:23723238, PubMed:29590090, PubMed:35338845, PubMed:38006878). In response to amino acid depletion, the GATOR1 complex has GTPase activating protein (GAP) activity and strongly increases GTP hydrolysis by RagA/RRAGA (or RagB/RRAGB) within heterodimeric Rag complexes, thereby turning them into their inactive GDP-bound form, releasing mTORC1 from lysosomal surface and inhibiting mTORC1 signaling (PubMed:23723238, PubMed:29590090, PubMed:35338845). In the presence of abundant amino acids, the GATOR1 complex is ubiquitinated and inhibited by GATOR2 (PubMed:23723238),

PubMed:36528027). Within the GATOR1 complex, NPRL2 constitutes the catalytic subunit that mediates the GTPase activator activity and under methionine-sufficient conditions, the GTPase activator activity is inhibited by PRMT1 through methylation and consequently inducing timely mTORC1 activation (PubMed:27173016, PubMed:30651352, PubMed:35338845).

Cellular Location

Lysosome membrane. Note=Localization to lysosomes is mediated by the KICSTOR complex and is amino acid-independent.

Tissue Location

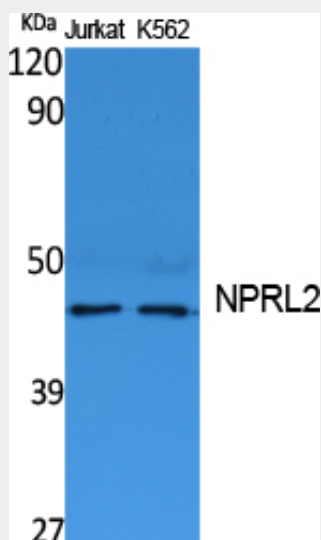
Most abundant in skeletal muscle, followed by brain, liver and pancreas, with lower amounts in lung, kidney, placenta and heart. Expressed in the frontal lobe cortex as well as in the temporal, parietal, and occipital lobes (PubMed:26505888, PubMed:27173016). Expressed in most lung cancer cell lines tested

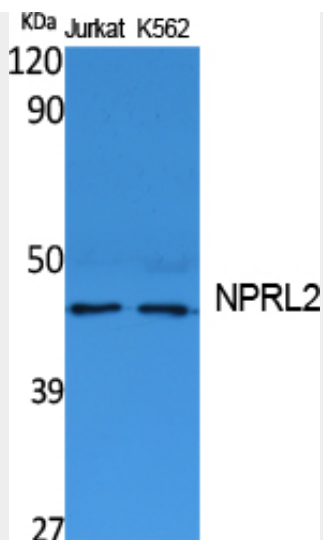
NPRL2 Polyclonal Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

NPRL2 Polyclonal Antibody - Images





NPRL2 Polyclonal Antibody - Background

As a component of the GATOR1 complex functions as an inhibitor of the amino acid-sensing branch of the TORC1 pathway. The GATOR1 complex strongly increases GTP hydrolysis by RRAGA and RRAGB within RRAGC-containing heterodimers, thereby deactivating RRAGs, releasing mTORC1 from lysosomal surface and inhibiting mTORC1 signaling. The GATOR1 complex is negatively regulated by GATOR2 the other GATOR subcomplex in this amino acid-sensing branch of the TORC1 pathway.