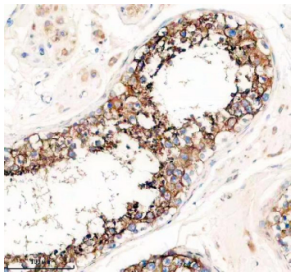
PRND Antibody / Prion-like protein doppel (FY13436)

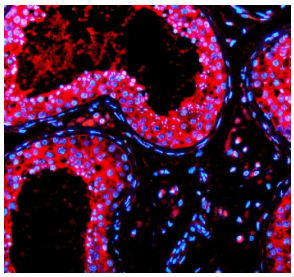
Catalog No.	Formulation	Size
FY13436	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

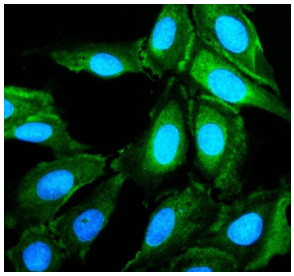
Availability	1-2 days
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl and 0.2 mg Na2HPO4.
UniProt	Q9UKY0
Localization	Cytoplasm, Nucleus
Applications	Western Blot : 0.25-0.5ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml ELISA : 0.1-0.5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This PRND antibody is available for research use only.



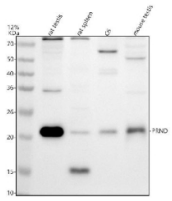
Immunohistochemical staining using PRND antibody on paraffin-embedded human testis tissue sections. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0) prior to antibody incubation. Sections were blocked with 10% goat serum and incubated with PRND antibody overnight at 4C. Detection was carried out using an HRP-based secondary antibody with DAB as the chromogen. Staining demonstrates membranous and cytoplasmic immunoreactivity within seminiferous tubules. Nuclei were counterstained with hematoxylin.



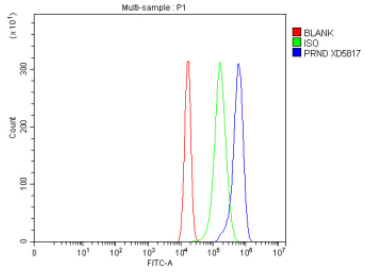
Immunofluorescence staining using PRND antibody on paraffin-embedded human testis tissue sections. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0) prior to antibody incubation. Sections were blocked with 10% goat serum and incubated with PRND antibody overnight at 4C. Fluorescent signal was detected using a Cy3-conjugated secondary antibody, and nuclei were counterstained with DAPI. Staining highlights PRND expression within cells of the seminiferous tubules.



Immunofluorescence staining using PRND antibody in cultured U2OS cells. Enzyme-mediated antigen retrieval was performed prior to antibody incubation. Cells were blocked with 10% goat serum and incubated with PRND antibody overnight at 4C. Fluorescent signal was detected using a DyLight 488-conjugated secondary antibody, and nuclei were counterstained with DAPI. Staining shows cytoplasmic immunoreactivity in U2OS cells.



Western blot analysis of PRND using PRND antibody. Lane 1: rat testis tissue lysate; Lane 2: rat spleen tissue lysate; Lane 3: rat C6 whole cell lysate; Lane 4: mouse testis tissue lysate. A prominent band is detected at approximately 20 kDa, consistent with the expected molecular weight of Prion-like protein doppel. In addition, a lower molecular weight band around ~15 kDa and higher molecular weight species between ~60-80 kDa can be observed in a tissue-dependent manner, which may reflect processed, glycosylated, or mature forms of the GPI-anchored PRND protein.



Flow cytometry analysis of fixed human U-2 OS cells with PRND antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= PRND antibody.

Description

PRND antibody targets Prion-like protein doppel, encoded by the PRND gene. Prion-like protein doppel is a glycosylphosphatidylinositol-anchored protein that shares structural similarity with the cellular prion protein, although it exhibits distinct expression patterns and biological functions. PRND is primarily localized to the cell surface, where it associates with lipid rafts and extracellular environments. Unlike the ubiquitously expressed prion protein, doppel expression is more restricted and shows strong tissue specificity.

Functionally, Prion-like protein doppel has been implicated in regulation of cell survival, differentiation, and tissue homeostasis. PRND is particularly associated with male reproductive biology, where it plays an important role in spermatogenesis and sperm function. Loss or dysregulation of PRND expression has been linked to impaired fertility, highlighting its physiological importance. A PRND antibody supports studies focused on reproductive biology and prion-related protein function.

PRND expression is most prominent in testicular tissue, with lower or tightly regulated expression reported in other tissues. Its membrane localization and glycosylation state contribute to its functional interactions with extracellular partners and signaling pathways. Because of its restricted expression profile, PRND is often used as a marker for studying tissue-specific regulation and differentiation states in reproductive systems.

From a disease-relevance perspective, Prion-like protein doppel has been investigated in the context of neurobiology and cancer. Aberrant expression of PRND has been reported in certain tumor types, where it may influence cell survival and tumor progression. In addition, due to its structural relationship with prion proteins, PRND is of interest in studies examining prion biology and protein misfolding mechanisms, although it is not itself associated with transmissible prion diseases.

At the molecular level, Prion-like protein doppel contains conserved domains involved in protein folding and membrane attachment through its GPI anchor. Post-translational modifications, including glycosylation, can influence its apparent molecular weight and behavior in biochemical assays without altering the primary amino acid sequence. PRND antibody reagents support research applications focused on reproductive biology, prion-related proteins, and disease-associated expression changes, with NSJ Bioreagents providing reagents intended for research use.

Application Notes

Optimal dilution of the PRND antibody should be determined by the researcher.

Immunogen

E.coli-derived human Prion-like protein doppel recombinant protein (amino acids A111-H144) was used as the immunogen for the PRND antibody.

Storage

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