

Anti-DDX4 Antibody [PSH08-53] - BSA and Azide free

HA751228



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse
Applications:	WB, IHC-P, IHC-Fr
Molecular Wt:	Predicted band size: 79 kDa
Clone number:	PSH08-53

Description: The Vasa gene is a member of the DEAD box family of RNA helicases in *Drosophila melanogaster*. Its human ortholog, Ddx4, is located on human chromosome 5q. It is syntenic to mouse chromosome 13, where the mouse vasa gene is located. The gene is conserved in many invertebrates and vertebrate species such as *Caenorhabditis elegans*, *Xenopus*, Zebrafish, flatworms, echinoderms, molluscs, nematodes, mice and rats as an important part of germ line maintenance and function. One of main function of Vasa protein is in germ cell determination and function. It uses ATP dependent RNA helicase catalytic activity to regulate the translation of multiple mRNAs. Vasa unwinds the duplex RNA by binding and bending short stretches of the duplex in a non-processive manner. The conserved domain may act as chaperones by unwinding RNA secondary structures and refolding properly. pre-mRNA splicing, ribosome biogenesis, nuclear export, translational regulation and degradation. Vasa was found to bind RNA in a sequence-specific manner. In the *Drosophila* embryos, Vasa binds the Uracil rich motif of the mei-P26 UTR. A mutation in Vasa reduced the interaction of between Mei-P26 and initiation factor eIF58 which in turn significantly reduced translation of the gene. Recent evidence in invertebrates suggests that Vasa has a role in multipotent stem cells, but the exact function is unknown.

Immunogen:	Recombinant protein within human DDX4 aa 201-724.
Positive control:	Mouse testis tissue lysate, human testis tissue, mouse testis tissue, mouse ovary tissue.
Subcellular location:	Cytoplasm, perinuclear region.
Database links:	SwissProt: Q9NQI0 Human Q61496 Mouse
Storage Buffer:	1*PBS (pH7.4).
Storage Instruction:	Store at 2-8°C. Avoid freeze.
Purity:	Protein A affinity purified.

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Applications: WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation

Images

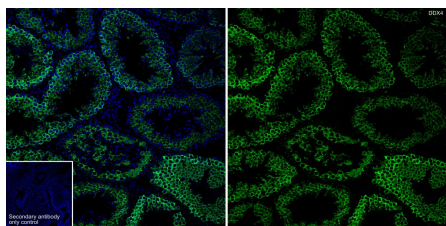


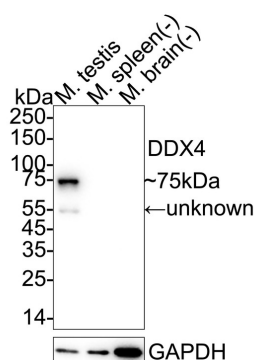
Fig1: This data was developed using HA722999, the same antibody clone in a different buffer formulation.

Immunofluorescence analysis of frozen mouse testis tissue with Rabbit anti-DDX4 antibody (HA722999) at 1/500 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) for about 2 minutes in microwave oven. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA722999, green) at 1/500 dilution overnight at 4 °C, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

Fig2: This data was developed using HA722999, the same antibody clone in a different buffer formulation.

Western blot analysis of DDX4 on different lysates with Rabbit anti-DDX4 antibody (HA722999) at 1/2,000 dilution.



Lane 1: Mouse testis tissue lysate

Lane 2: Mouse spleen tissue lysate (negative)

Lane 3: Mouse brain tissue lysate (negative)

Lysates/proteins at 20 µg/Lane.

Predicted band size: 79 kDa

Observed band size: 75 kDa

Exposure time: 4 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA722999) at 1/2,000 dilution was used in 5% NFDM/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

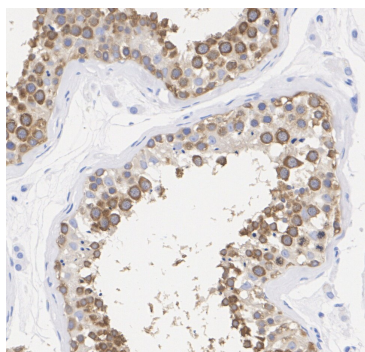


Fig3: This data was developed using HA722999, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded human testis tissue with Rabbit anti-DDX4 antibody (HA722999) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA722999) at 1/200 dilution for 1 hour at room temperature. The

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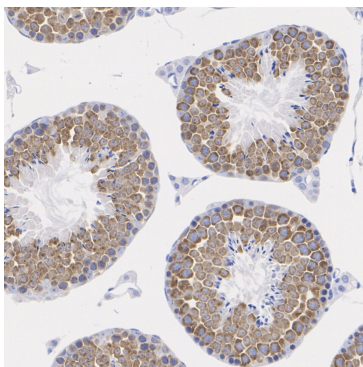


Fig4: This data was developed using HA722999, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded mouse testis tissue with Rabbit anti-DDX4 antibody (HA722999) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA722999) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

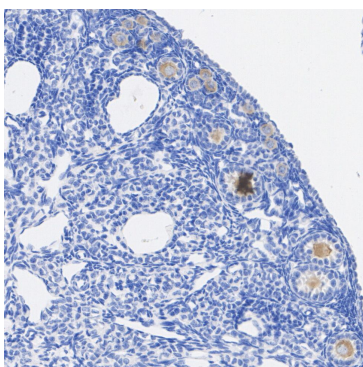


Fig5: This data was developed using HA722999, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded mouse ovary tissue with Rabbit anti-DDX4 antibody (HA722999) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA722999) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

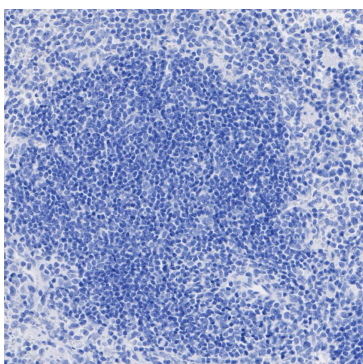


Fig6: This data was developed using HA722999, the same antibody clone in a different buffer formulation.

Immunohistochemical analysis of paraffin-embedded mouse spleen tissue (negative) with Rabbit anti-DDX4 antibody (HA722999) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA722999) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Miao Y et al. DDX4 enhances antiviral activity of type I interferon by disrupting interaction of USP7/SOCS1 and promoting degradation of SOCS1. *mBio*. 2024 Mar
2. Xu C et al. Building RNA-protein germ granules: insights from the multifaceted functions of DEAD-box helicase Vasa/Ddx4 in germline development. *Cell Mol Life Sci*. 2021 Dec

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