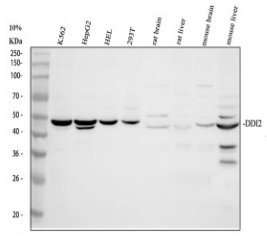
DDI2 Antibody / DNA Damage Inducible 1 Homolog 2 Antibody (FY13675)

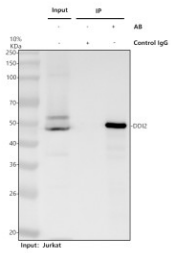
Catalog No.	Formulation	Size
FY13675	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

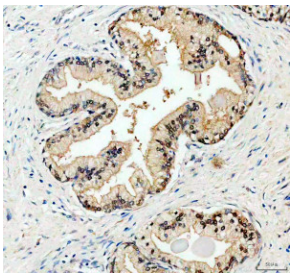
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q5TDH0
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml Immunoprecipitation: 2ug per 500ug of lysate ELISA: 0.1-0.5 ug/ml
Limitations	This DDI2 Antibody / DNA Damage Inducible 1 Homolog 2 Antibody is supplied exclusively for research use.



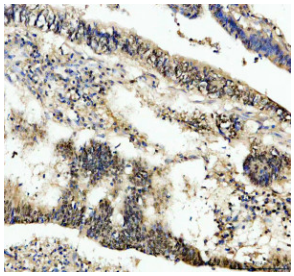
DDI2 Antibody WB in Human and Rodent Samples. Western blot analysis of human K562 (lane 1), HepG2 (lane 2), HEL (lane 3), and 293T (lane 4) whole cell lysates; rat brain (lane 5) and liver (lane 6); and mouse brain (lane 7) and liver (lane 8) lysates using the DNA Damage Inducible 1 Homolog 2 Antibody. A prominent band is detected at approximately 45-50 kDa across the samples, near the calculated molecular weight of DDI2 (44.5 kDa). Additional bands are visible in some samples, particularly mouse liver.



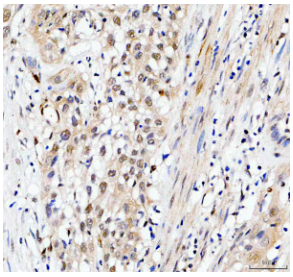
DDI2 Antibody IP in Human Jurkat Cells. Immunoprecipitation of DDI2 from human Jurkat cell lysate using the DNA Damage Inducible 1 Homolog 2 Antibody. The input lysate (lane 1) contains a prominent band near 47-50 kDa. The rabbit IgG control immunoprecipitation (lane 2) shows no corresponding band, while the DDI2 antibody immunoprecipitate (lane 3) contains a strong band near 50 kDa, supporting enrichment of DDI2.



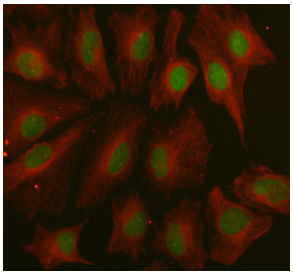
DDI2 Antibody IHC in Human Prostate Cancer. Immunohistochemical staining of FFPE human prostate cancer tissue using the DNA Damage Inducible 1 Homolog 2 Antibody at 2 ug/ml. Brown DAB staining is observed predominantly in the cytoplasm of glandular epithelial cells, with variable staining intensity and comparatively limited staining in the surrounding stromal tissue. Heat-induced epitope retrieval was performed using EDTA buffer (pH 8.0), followed by overnight primary antibody incubation at 4Â°C and HRP-DAB detection.



DDI2 Antibody IHC in Human Colon Cancer. Immunohistochemical staining of FFPE human colon cancer tissue using the DNA Damage Inducible 1 Homolog 2 Antibody. Brown staining is observed in malignant glandular epithelial cells, with prominent cytoplasmic labeling and variable staining intensity across the tissue. Nuclei are counterstained blue, and surrounding stromal cells show comparatively limited staining.



DDI2 Antibody IHC in Human Bladder Cancer. Immunohistochemical staining of FFPE human bladder cancer tissue using the DNA Damage Inducible 1 Homolog 2 Antibody. Brown staining is distributed throughout portions of the tumor cell population, involving cytoplasmic and some nuclear regions. Staining intensity varies among individual cells, while adjacent stromal tissue shows comparatively limited labeling.



DDI2 Antibody IF in Human HeLa Cells. Immunofluorescence analysis of human HeLa cells using the DNA Damage Inducible 1 Homolog 2 Antibody (green) together with an alpha-tubulin antibody (red). DDI2-associated fluorescence is concentrated in the nuclear regions, while alpha-tubulin staining highlights the surrounding cytoplasmic microtubule network.

Description

DDI2 Antibody / DNA Damage Inducible 1 Homolog 2 Antibody recognizes a ubiquitin-associated aspartyl protease involved in protein quality control and cellular responses to proteasome dysfunction. The DDI2 gene encodes DNA damage inducible 1 homolog 2, also known as protein DDI1 homolog 2, a member of a conserved family of proteins containing retroviral protease-like domains. DDI2 participates in the processing of ubiquitinated proteins and contributes to mechanisms that maintain intracellular protein homeostasis under conditions of proteotoxic stress.

One of the best-characterized functions of DDI2 is its role in activating nuclear factor erythroid 2-related factor 1 (NFE2L1), also called NRF1. This transcription factor regulates the expression of proteasome subunit genes and helps restore proteasome capacity when protein degradation becomes impaired. Under normal conditions, NRF1 is associated with the endoplasmic reticulum and undergoes continuous processing and degradation. When proteasome activity is inhibited, NRF1 escapes efficient degradation and becomes a substrate for DDI2-mediated proteolytic cleavage. The processed transcription factor can then enter the nucleus and stimulate proteasome gene expression.

DDI2 contains a conserved aspartyl protease domain and regions involved in interactions with ubiquitinated proteins. Biochemical studies have demonstrated that DDI2 preferentially cleaves certain highly polyubiquitinated substrates, supporting its classification as a ubiquitin-directed endoprotease. This activity distinguishes DDI2 from conventional

deubiquitinating enzymes, which remove ubiquitin modifications rather than cleaving the modified protein itself. Through its effects on NRF1, DDI2 contributes to the adaptive response often described as proteasome recovery or the proteasome bounce-back response.

DDI2 has attracted attention in cancer research because its activity can influence cellular resistance to proteasome inhibitors. Experimental studies have shown that disrupting DDI2-dependent NRF1 activation can increase sensitivity to proteasome inhibition in certain cancer models. DDI2 has also been implicated in responses to replication stress, connecting its biological functions with genome maintenance and cellular survival. NSJ Bioreagents offers this DDI2 Antibody for investigating ubiquitin-dependent proteolysis, proteasome regulation, and the molecular mechanisms that allow cells to adapt to impaired protein degradation.

Explore related research targets in our Cell Biology Antibodies collection.

Application Notes

Users should optimize the working dilution of the DDI2 Antibody / DNA Damage Inducible 1 Homolog 2 Antibody for their specific experimental setup.

Immunogen

The DDI2 Antibody was generated using e. coli-derived human DNA Damage Inducible 1 Homolog 2 recombinant protein (amino acids Q46-P399).

Storage

Once reconstituted, refrigerate the DDI2 Antibody at 4oC for no longer than one month. For extended storage, freeze aliquots at -20oC for up to six months and avoid repeated freeze-thaw cycles.

Alternate Names

Protein DDI1 homolog 2 antibody, DNA damage inducible 1 homolog 2 antibody, DDI1-like protein 2 antibody, Ubiquitin-directed endoprotease DDI2 antibody

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