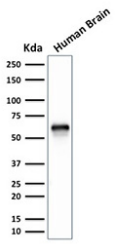
XAB1 Antibody / GPN1 [clone GPN1/2350] (V3826)

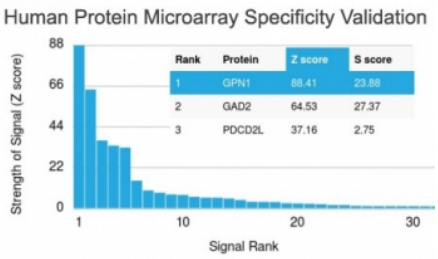
Catalog No.	Formulation	Size
V3826-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	100 ug
V3826-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced) and 0.05% sodium azide	20 ug
V3826SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

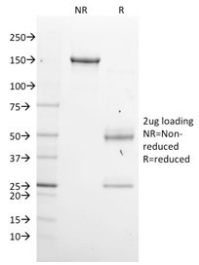
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG1, kappa
Clone Name	GPN1/2350
Purity	Protein G affinity chromatography
UniProt	Q9HCN4
Localization	Nuclear
Applications	ELISA (order BSA/sodium Azide-free Format For Coating) : Western Blot : 2-4ug/ml
Limitations	This XAB1 antibody is available for research use only.



XAB1 Antibody Human Brain WB. Western blot analysis of human brain tissue lysate using XAB1 antibody. The mouse monoclonal antibody clone GPN1/2350 detects a distinct band at approximately 55 kDa, consistent with the predicted molecular weight of GPN-loop GTPase 1 / GPN1. This banding pattern supports detection of endogenous XAB1 protein in neural tissue, aligning with its role in RNA polymerase II assembly and transcriptional regulation in the brain.



XAB1 Antibody Microarray Specificity Validation. Analysis of HuProt(TM) microarray containing more than 19,000 full-length human proteins using XAB1 antibody (clone GPN1/2350). These results demonstrate the foremost specificity of the GPN1/2350 mAb. Z- and S- score: The Z-score represents the strength of a signal that an antibody (in combination with a fluorescently-tagged anti-IgG secondary Ab) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If the targets on the HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-scores. The S-score therefore represents the relative target specificity of an Ab to its intended target.



XAB1 Antibody Gel Run. SDS-PAGE analysis of purified, BSA-free XAB1 antibody (clone GPN1/2350) as confirmation of integrity and purity.

Description

GPN-loop GTPase 1 (GPN1) is a highly conserved small GTP-binding protein that plays a central role in the assembly, maturation, and nuclear localization of RNA polymerase II, the enzyme responsible for transcription of protein-coding genes. Also known as XPA-binding protein 1 (XAB1), this factor links transcriptional regulation with DNA repair-associated processes through its interaction with proteins involved in nucleotide excision repair. XAB1 antibody is commonly used to investigate how RNA polymerase II complexes are assembled and trafficked within the cell, particularly in studies focused on transcriptional control and genome stability.

GPN1 is a member of the GPN-loop GTPase family, defined by a conserved glycine-proline-asparagine (GPN) motif required for nucleotide binding and hydrolysis. This enzymatic activity drives conformational changes that are essential for proper assembly of RNA polymerase II subunits in the cytoplasm prior to their import into the nucleus. GPN1 antibody, also referred to as GPN1 antibody or XAB1 antibody in the literature, supports detection of this protein in pathways governing RNA polymerase II biogenesis, nuclear import, and transcriptional complex stability. Its ubiquitous expression across tissues reflects its fundamental role in maintaining basal transcriptional activity in both proliferating and differentiated cells.

Functionally, GPN1 operates within a coordinated assembly pathway involving additional GPN family members and RNA polymerase II accessory proteins. Loss or disruption of GPN1 function has been associated with defective nuclear accumulation of RNA polymerase II, resulting in impaired transcriptional output and altered cellular proliferation. In parallel, its interaction with XPA and related DNA repair factors suggests that GPN1 contributes to integrating transcriptional activity with cellular responses to DNA damage, ensuring that transcription and repair processes are properly coordinated. XAB1 antibody therefore provides a useful tool for studying how transcriptional machinery responds to genomic stress and maintains transcriptional fidelity.

Subcellularly, GPN1 localizes to both cytoplasmic and nuclear compartments, consistent with its role in shuttling RNA polymerase II components. It participates in transient protein-protein interactions with multiple RNA polymerase II subunits and assembly factors, facilitating correct folding, complex formation, and transport. GPN1 antibody is valuable for examining these localization patterns and interaction networks, particularly in studies investigating nuclear transport dynamics and transcriptional complex assembly under normal and stress conditions.

This XAB1 antibody is further strengthened by protein microarray specificity validation, demonstrating highly selective binding to GPN1 across a large panel of human proteins. This level of validation provides strong confidence in target

specificity in complex lysates and reduces the risk of non-specific cross-reactivity. Complementary western blot analysis supports detection of GPN1 protein in cell and tissue samples, enabling assessment of expression levels and confirmation of target identity. Together, these features position this antibody as a reliable reagent for research into RNA polymerase II assembly, nuclear transport, transcriptional regulation, and the broader coordination of gene expression with DNA repair pathways.

This antibody is part of a broader antibody panel offered by NSJ Bioreagents.

Application Notes

The concentration stated for each application is a general starting point. Variations in protocols, secondaries and substrates may require the XAB1 antibody to be titered up or down for optimal performance.

Immunogen

Recombinant full length human protein was used as the immunogen for this XAB1 antibody.

Storage

Store the XAB1 antibody at 2-8oC (with azide) or aliquot and store at -20oC or colder (without azide).

Alternate Names

GPN1 antibody, XAB1 protein antibody, RNA polymerase II assembly factor antibody, GPN-loop GTPase 1 antibody, XPA-binding protein 1 antibody