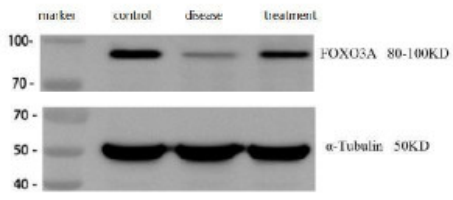
FOXO3A Antibody / Forkhead Transcription Factor Antibody [clone HFD-6] (RQ4741)

Catalog No.	Formulation	Size
RQ4741	Antibody in PBS with 0.02% sodium azide, 50% glycerol and 0.4-0.5mg/ml BSA	100 ul

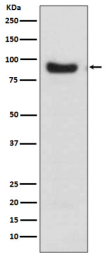
Recombinant RABBIT MONOCLONAL

Bulk quote request

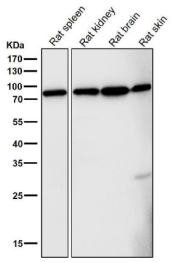
Availability	1-2 weeks
Species Reactivity	Human, Mouse, Rat
Format	Purified
Host	Rabbit
Clonality	Recombinant Rabbit Monoclonal
Isotype	Rabbit IgG
Clone Name	HFD-6
Purity	Affinity purified
UniProt	O43524
Applications	Western blot: 1:1000-1:2000 Immunofluorescence/Immunocytochemistry: 1:50-1:200
Limitations	This FOXO3A Antibody / Forkhead Transcription Factor Antibody is available for research use only.



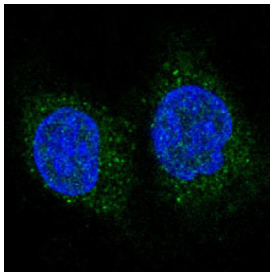
FOXO3A Antibody Mouse Alzheimer's Disease Model WB. Western blot analysis was performed using FOXO3A Antibody on lane 1: normal mouse hippocampal tissue, lane 2: hippocampal tissue from an Alzheimer's disease model mouse, and lane 3: hippocampal tissue from an Alzheimer's disease model mouse following treatment with an experimental compound. A specific immunoreactive band is detected at approximately 80â€“100 kDa, consistent with the expected migration of FOXO3A, which commonly migrates above its predicted molecular weight due to post-translational modifications. Alpha-Tubulin served as the loading control. This FOXO3A Antibody / Forkhead Transcription Factor Antibody is well suited for Western blot studies of FOXO3A expression, neurodegenerative disease mechanisms, cell survival signaling, and transcriptional regulation.



FOXO3A Antibody Human Breast Cancer Cell WB. Western blot analysis was performed using FOXO3A Antibody on human MCF-7 cell lysate. A distinct immunoreactive band is detected at approximately 80â€“90 kDa, consistent with the expected migration of FOXO3A, which commonly migrates above its predicted molecular weight due to post-translational modifications. The strong, specific signal demonstrates robust detection of endogenous FOXO3A in this breast cancer cell line. This FOXO3A Antibody / Forkhead Transcription Factor Antibody is well suited for Western blot studies of FOXO3A expression, transcriptional regulation, PI3K/AKT signaling, apoptosis, and cellular stress responses.



FOXO3A Antibody Rat Tissue WB. Western blot analysis was performed using FOXO3A Antibody on lane 1: rat spleen, lane 2: rat kidney, lane 3: rat brain, and lane 4: rat skin tissue lysates. A prominent immunoreactive band is detected at approximately 80â€“100 kDa in all tissues, consistent with the expected migration of FOXO3A, which commonly migrates above its predicted molecular weight due to post-translational modifications. Expression is observed across multiple rat tissues, demonstrating the broad distribution of this forkhead transcription factor. This FOXO3A Antibody / Forkhead Transcription Factor Antibody is well suited for Western blot studies of FOXO3A expression, transcriptional regulation, apoptosis, oxidative stress responses, and PI3K/AKT signaling.



FOXO3A Antibody HeLa Cell IF. FOXO3A Antibody was used for immunofluorescent analysis of human HeLa cells. The antibody produced a distinct green fluorescent signal that is predominantly localized to the cytoplasm with additional nuclear staining, consistent with the dynamic intracellular distribution of FOXO3A regulated by phosphorylation and nucleo-cytoplasmic shuttling. Nuclei are counterstained with DAPI (blue). This FOXO3A Antibody / Forkhead Transcription Factor Antibody is well suited for investigating FOXO3A localization, transcription factor regulation, PI3K/AKT signaling, apoptosis, and cellular stress responses.

Description

FOXO3A Antibody / Forkhead Transcription Factor Antibody recognizes FOXO3A, a member of the Forkhead box O family of transcription factors that regulates gene expression controlling apoptosis, cell cycle arrest, oxidative stress resistance, metabolism, autophagy, DNA repair, and longevity. FOXO3A functions as a sequence-specific DNA-binding protein that integrates signals from multiple intracellular pathways to determine whether cells proliferate, differentiate, survive, or undergo programmed cell death. As one of the best-characterized forkhead transcription factors, FOXO3A serves as a key downstream effector of the phosphoinositide 3-kinase (PI3K)/AKT signaling pathway and numerous stress-responsive signaling cascades. An FOXO3A Antibody is therefore widely used to investigate transcriptional regulation, signal transduction, and cellular stress responses.

FOXO3A activity is tightly regulated through phosphorylation, acetylation, ubiquitination, and additional post-translational modifications that influence its intracellular localization and transcriptional activity. Under growth factor stimulation, AKT phosphorylates FOXO3A, promoting its association with 14-3-3 proteins and export from the nucleus, thereby suppressing transcription of genes involved in apoptosis and stress resistance. In contrast, oxidative stress, nutrient deprivation, and other cellular challenges promote FOXO3A nuclear accumulation and activation of protective transcriptional programs. Researchers frequently analyze FOXO3A together with AKT, mTOR, PTEN, and additional signaling molecules to better understand the balance between cell survival and programmed cell death. An FOXO3A Antibody provides an important tool for investigating these highly regulated signaling events and the broader biology of forkhead transcription factors.

Altered FOXO3A expression or activity has been implicated in numerous human diseases, including breast, prostate, lung, colorectal, ovarian, and hematologic cancers, where dysregulated PI3K/AKT signaling often suppresses FOXO3A

tumor suppressor function. FOXO3A has also been linked to cardiovascular disease, diabetes, neurodegenerative disorders, skeletal muscle homeostasis, immune regulation, stem cell maintenance, and healthy aging. Genetic studies have associated FOXO3A variants with exceptional longevity in multiple human populations, highlighting its broad physiological importance. Consequently, an FOXO3A Antibody has become an essential reagent for research spanning oncology, metabolism, neuroscience, immunology, aging, and signal transduction.

FOXO3A is routinely analyzed using Western blot, immunohistochemistry, immunofluorescence, immunoprecipitation, chromatin immunoprecipitation, and flow cytometry to evaluate protein expression, nuclear localization, transcriptional activity, and regulation by upstream signaling pathways. When paired with phospho-specific antibodies, investigators can distinguish changes in total FOXO3A abundance from phosphorylation-dependent regulation. NSJ Bioreagents provides carefully validated antibodies to support these diverse applications across multiple experimental models. An FOXO3A Antibody / Forkhead Transcription Factor Antibody provides researchers with a reliable reagent for investigating transcriptional regulation, apoptosis, oxidative stress responses, cell cycle control, and disease-associated signaling mechanisms.

Explore our Transcription Factor Antibodies page to discover validated antibodies for FOXO3A and other transcriptional regulators involved in apoptosis, oxidative stress responses, PI3K/AKT signaling, cell cycle control, and gene expression.

Application Notes

Optimal dilution of the FOXO3A Antibody / Forkhead Transcription Factor Antibody should be determined by the researcher.

Immunogen

A synthetic peptide specific to human FOXO3A was used as the immunogen for the FOXO3A antibody.

Storage

Store the FOXO3A antibody at -20oC.

Alternate Names

FOXO3A antibody, Forkhead Transcription Factor antibody, Forkhead Box O3 antibody, FKHRL1 antibody

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