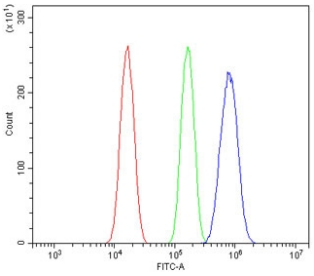
Ah Receptor Antibody / Ligand Activated Transcription Factor Antibody (RQ6035)

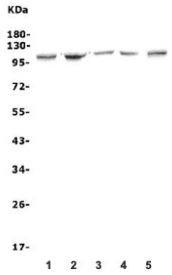
Catalog No.	Formulation	Size
RQ6035	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

Availability	1-3 business days
Species Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose and 0.025% sodium azide
UniProt	P41738
Applications	Western blot: 0.5-1ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This Ah Receptor Antibody / Ligand Activated Transcription Factor Antibody is available for research use only.



Ah Receptor Antibody Neuro-2a Cells FACS. Flow cytometric analysis of mouse Neuro-2a cells was performed using an Ah Receptor antibody at 1 ug per million cells following blocking with goat sera. Ah Receptor, also known as Aryl Hydrocarbon Receptor and a Ligand Activated Transcription Factor, regulates gene expression in response to environmental toxins, endogenous metabolites, and dietary ligands. Red histogram: cells alone. Green histogram: isotype control. Blue histogram: Ah Receptor antibody. The clear rightward shift of the Ah Receptor antibody signal relative to both controls demonstrates specific detection of endogenous AHR expression in Neuro-2a neuroblastoma cells. These findings are consistent with the emerging role of AHR signaling in neurodevelopment, neuronal homeostasis, and responses to environmental stimuli. These results support the utility of Ah Receptor Antibody for studies of signal transduction, neurobiology, and transcriptional regulation.



Ah Receptor Antibody Rat and Mouse Tissues WB. Western blot analysis of Ah Receptor expression using an Ah Receptor antibody. Lane 1: rat liver tissue lysate. Lane 2: rat PC-12 cell lysate. Lane 3: rat C6 cell lysate. Lane 4: rat RH-35 cell lysate. Lane 5: mouse liver tissue lysate. Ah Receptor, also known as Aryl Hydrocarbon Receptor and a Ligand Activated Transcription Factor, mediates cellular responses to xenobiotics, endogenous metabolites, and inflammatory signals. A distinct band is detected at approximately 95 kDa in all samples, corresponding to the expected molecular weight of full length AHR. Similar expression across hepatic and neural cell types is consistent with the broad physiologic roles of AHR in metabolism, neurobiology, and signal transduction. These results support the utility of Ah Receptor Antibody for studies of environmental sensing, transcriptional regulation, and cellular responses to external stimuli.

Description

Ah Receptor Antibody / Ligand Activated Transcription Factor Antibody recognizes Ah Receptor, also known as Aryl Hydrocarbon Receptor (AHR), a ligand activated transcription factor that serves as a central regulator of cellular responses to environmental, dietary, microbial, and endogenous metabolites. Ah Receptor belongs to the basic helix loop helix PER ARNT SIM family of proteins and exists in the cytoplasm as part of a multiprotein complex containing heat shock proteins and co-chaperones. Upon ligand binding, Ah Receptor translocates to the nucleus where it heterodimerizes with ARNT and activates transcription of target genes involved in xenobiotic metabolism, detoxification, and cellular adaptation. Through these functions, Ah Receptor acts as a key interface between the external environment and intracellular signaling networks.

Ah Receptor is best known for mediating responses to environmental contaminants such as dioxins and polycyclic aromatic hydrocarbons, but it also recognizes naturally occurring metabolites generated from tryptophan metabolism, dietary compounds, and microbiota derived molecules. Activation of Ah Receptor induces expression of genes including CYP1A1, CYP1A2, and CYP1B1, thereby promoting detoxification and metabolic homeostasis. Beyond xenobiotic metabolism, Ah Receptor influences cell proliferation, apoptosis, stem cell maintenance, and differentiation, emphasizing its broad role in normal physiology and adaptive responses to environmental stress.

Ah Receptor has emerged as an important regulator of immunity and inflammation. It modulates differentiation of T lymphocytes, innate lymphoid cells, macrophages, and dendritic cells and participates in maintaining barrier function in tissues such as the intestine, lung, and skin. Crosstalk between Ah Receptor and signaling pathways including NF kappa B, Wnt, and estrogen receptor pathways contributes to tissue specific regulation of inflammation and cellular homeostasis. Dysregulated Ah Receptor signaling has been implicated in autoimmune disorders, metabolic disease, and cancer. Depending on cellular context, Ah Receptor may function either as a tumor suppressor or as a promoter of tumor progression.

Altered Ah Receptor activity has been associated with lung cancer, breast cancer, hepatocellular carcinoma, glioma, and hematologic malignancies. The receptor also contributes to neurodevelopment, host-microbiome interactions, and maintenance of epithelial barriers. Consequently, Ah Receptor has become an important target in toxicology, pharmacology, immunology, and cancer biology.

Ah Receptor Antibody / Ligand Activated Transcription Factor Antibody is useful for investigations of transcriptional regulation, xenobiotic metabolism, immune signaling, and tumor biology. Detection of endogenous Ah Receptor provides a valuable tool for studies of environmental sensing, cellular differentiation, and diseases associated with altered AHR signaling.

Visit our AHR Antibody page to discover additional antibodies against this Environmental Sensor Protein, including reagents for studies of xenobiotic metabolism, immune regulation, and transcriptional signaling.

Application Notes

Optimal dilution of the Ah Receptor Antibody / Ligand Activated Transcription Factor Antibody should be determined by the researcher.

Immunogen

Recombinant rat protein (amino acids R15-Q196) was used as the immunogen for the Ah Receptor antibody.

Storage

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

Alternate Names

AHR Antibody, Aryl Hydrocarbon Receptor Antibody, Dioxin Receptor Antibody, Xenobiotic Sensor Antibody, Environmental Sensor Protein Antibody, PAS Domain Transcription Factor Antibody, BHLHE76 Antibody

Copyright © NSJ Bioreagents. All rights reserved.