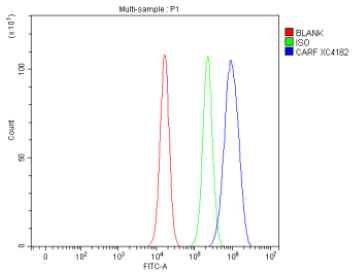
Carf Antibody / Collaborator of ARF / Cdkn2aip (FY13379)

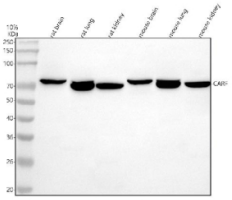
Catalog No.	Formulation	Size
FY13379	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q8VHI4
Applications	Western Blot: 0.25-0.5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This Carf antibody is available for research use only.



Flow Cytometry analysis of mouse NIH/3T3 cells using anti-Carf antibody. Overlay histogram showing NIH/3T3 cells stained with (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-Carf antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Western blot analysis of CDKN2AIP/CARF using anti-Carf antibody. Lane 1: rat brain tissue lysates, Lane 2: rat lung tissue lysates, Lane 3: rat kidney tissue lysates, Lane 4: mouse brain tissue lysates, Lane 5: mouse lung tissue lysates, Lane 6: mouse kidney tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Carf antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A strong band was detected at approximately 75 kDa in both rat and mouse brain, whereas lung and kidney samples displayed a slightly faster-migrating band at approximately 70 kDa. This upward mobility shift relative to the predicted 61 kDa is consistent with the known phosphorylation-dependent migration behavior of CARF in different tissues.

Description

Carf antibody detects Collaborator of ARF, a nuclear protein encoded by the CDKN2AIP gene on chromosome 4q35.1. CARF (CDKN2A-interacting protein) acts as a transcriptional co-regulator and cell cycle checkpoint factor that mediates the tumor suppressor function of p14ARF and p53. It plays key roles in cellular senescence, DNA damage response, and cell proliferation control. CARF is expressed in most proliferative tissues, including liver, kidney, and hematopoietic cells, with particularly high levels in dividing and stress-activated cells.

Structurally, CARF contains a coiled-coil domain and nuclear localization signals that facilitate interaction with chromatin-associated proteins and transcriptional regulators. It belongs to the CDKN2A-interacting protein family and acts as a bridge between the ARF tumor suppressor pathway and p53 signaling. CARF directly binds p14ARF and modulates p53 stability through MDM2 regulation, coordinating cell cycle arrest in response to genotoxic stress. Co-localization studies show CARF within the nucleus and nucleolus, where it associates with replication machinery and chromatin-modifying complexes.

Functionally, CARF serves as a cell cycle regulator that maintains p53 activity and prevents uncontrolled proliferation. Under DNA damage conditions, CARF enhances p53-dependent transcription of target genes such as CDKN1A (p21), promoting cell cycle arrest and senescence. It also regulates replication stress responses by interacting with checkpoint proteins such as ATR and CHK1. CARF expression levels determine whether a cell undergoes reversible arrest or permanent senescence, integrating multiple stress and growth signals.

Dysregulation of CARF expression has been implicated in cancer and aging. Overexpression can suppress proliferation and induce senescence, while loss of CARF may impair p53 function and enhance oncogenic transformation. In certain tumors, CARF mislocalization correlates with altered cell cycle control. Pathway associations include p53 signaling, DNA damage response, and cell cycle checkpoint regulation. Developmentally, CARF contributes to tissue homeostasis by regulating stem and progenitor cell proliferation.

The Carf antibody from NSJ Bioreagents is a valuable reagent for studies of tumor suppression, senescence, and p53 pathway regulation.

Application Notes

Optimal dilution of the Carf antibody should be determined by the researcher.

Immunogen

E.coli-derived mouse CDKN2AIP/CARF recombinant protein (Position: R183-T689) was used as the immunogen for the Carf antibody.

Storage

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

Copyright © NSJ Bioreagents. All rights reserved.