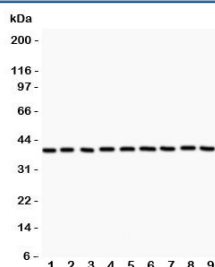


Ref-1 Antibody / Redox Factor 1 Antibody (R31549)

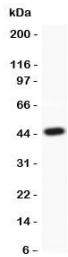
Catalog No.	Formulation	Size
R31549	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

[Bulk quote request](#)

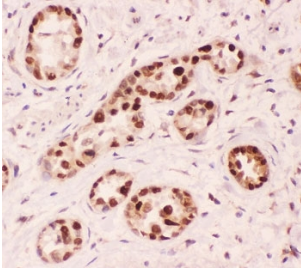
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
Gene ID	328
Applications	Western Blot : 0.5-1ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml Immunofluorescence : 2-4ug/ml Flow Cytometry : 1-3ug/million cells
Limitations	This Ref-1 Antibody / Redox Factor 1 Antibody is available for research use only.



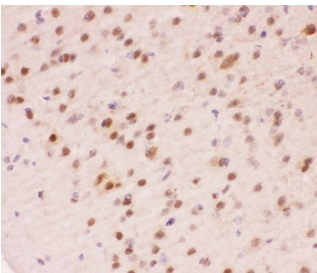
Ref-1 Antibody Detection in Human, Rat and Mouse Samples WB. Western blot testing of rat NRK (lane 1), human HeLa (lane 2), rat PC-12 (lane 3), rat RH35 (lane 4), mouse HEPA (lane 5), human MCF7 (lane 6), human A549 (lane 7), human placenta (lane 8) and human A431 (lane 9) lysates with Ref-1 Antibody shows a strong, discrete band at approximately 38 kDa across all nine samples, consistent with the expected molecular weight of APE1/APEX1.



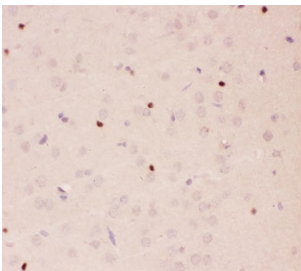
Ref-1 Antibody Detection of Recombinant Human APE1 WB. Western blot testing of 0.5 ng recombinant human APE1 protein with Ref-1 Antibody demonstrates recognition of the recombinant target, providing additional evidence of APE1/APEX1 binding.



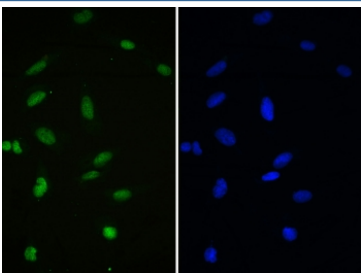
Ref-1 Antibody Staining of Human Lung Cancer IHC. Immunohistochemistry testing of FFPE human lung cancer tissue with Ref-1 Antibody shows prominent brown nuclear staining in tumor cells, with additional cytoplasmic immunoreactivity. HIER was performed by steaming sections in pH 6 citrate buffer for 20 min before antibody testing.



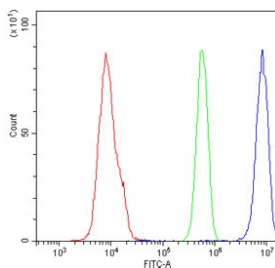
Redox Factor 1 Antibody Staining of Mouse Brain IHC. Immunohistochemistry testing of FFPE mouse brain tissue with Redox Factor 1 Antibody shows distinct brown nuclear staining in numerous cells, with comparatively limited background staining. HIER was performed by steaming sections in pH 6 citrate buffer for 20 min before antibody testing.



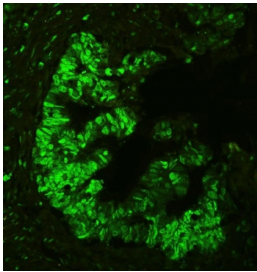
Ref-1 Antibody Staining of Rat Brain IHC. Immunohistochemistry testing of FFPE rat brain tissue with Ref-1 Antibody shows discrete brown nuclear immunoreactivity in a subset of cells against a lightly counterstained tissue background. HIER was performed by steaming sections in pH 6 citrate buffer for 20 min before antibody testing.



Ref-1 Antibody Staining of U-2 OS Osteosarcoma Cells IF. Immunofluorescence staining of FFPE human U-2 OS osteosarcoma cells with Ref-1 Antibody at 2 ug/ml shows strong green APE1/APEX1 signal concentrated predominantly in the nuclei, corresponding closely with blue DAPI nuclear staining. HIER was performed by steaming in pH 6 citrate buffer for 20 min before antibody testing.



Ref-1 Antibody Detection in U937 Histiocytic Lymphoma Cells FACS. Flow cytometry testing of human U937 histiocytic lymphoma cells with Ref-1 Antibody at 1 ug/million cells following goat serum blocking. The antibody-stained population (blue) shows a pronounced rightward fluorescence shift relative to the isotype control (green) and cells-alone control (red), demonstrating detection of APE1/Ref-1.



Redox Factor 1 Antibody Staining of Human Colon Cancer Tissue IF.
Immunofluorescence staining of FFPE human colon cancer tissue with Redox Factor 1 Antibody shows strong green immunoreactivity throughout the malignant glandular epithelium, with heterogeneous staining intensity among tumor cells. HIER was performed by steaming sections in pH 6 citrate buffer for 20 min before antibody testing.

Description

Ref-1 Antibody / Redox Factor 1 Antibody recognizes APE1/APEX1, a multifunctional protein with important roles in DNA repair and redox-dependent regulation of transcription factors. The protein is commonly known as APE1 for its apurinic/apyrimidinic endonuclease activity and as Ref-1 for its distinct redox regulatory function. Together, these activities connect the cellular response to DNA damage with mechanisms controlling gene expression and adaptation to oxidative stress.

As a DNA repair enzyme, APE1 is a central component of the base excision repair pathway. Following removal of a damaged base by a DNA glycosylase, APE1 cleaves the DNA backbone adjacent to the resulting apurinic/apyrimidinic site. This generates an intermediate that can be processed by downstream repair enzymes, helping maintain genome stability following oxidative, alkylation-associated and endogenous DNA damage.

The Ref-1 function of APE1 is mechanistically distinct from its DNA repair activity. Through redox-dependent regulation, Ref-1 can influence the DNA-binding activity of several transcription factors involved in cellular stress responses, proliferation and survival. This dual functionality has made Redox Factor 1 Antibody research particularly relevant to studies examining the relationship between oxidative conditions, transcriptional regulation and DNA damage responses.

APE1/Ref-1 has also attracted substantial interest in cancer research. Changes in its abundance, intracellular localization or activity may influence DNA repair capacity and cellular responses to stress. Its combined effects on genome maintenance and transcriptional regulation provide multiple mechanisms through which altered APE1/Ref-1 biology may contribute to tumor cell survival and treatment response.

NSJ Bioreagents offers this rabbit polyclonal Ref-1 Antibody generated against a broad recombinant region of human APE1/APEX1. A Redox Factor 1 Antibody provides a research tool for investigating Ref-1 expression, redox regulation, DNA repair and the multifunctional biology of APE1/APEX1.

Application Notes

The stated application concentrations are suggested starting amounts. Titration of the Ref-1 Antibody / Redox Factor 1 Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Human partial recombinant protein (AA 2-318) was used as the immunogen for this Ref-1 / APE1 antibody.

Storage

After reconstitution, the Ref-1 / APE1 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.

Alternate Names

Redox factor 1 antibody, APE1 antibody, APEX1 antibody, AP endonuclease 1 antibody, REF1 antibody

