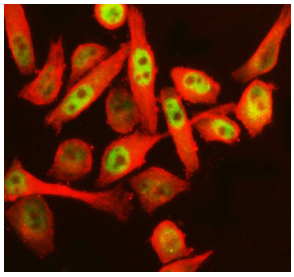
RERE Antibody / Arginine-glutamic acid dipeptide repeats protein (FY13320)

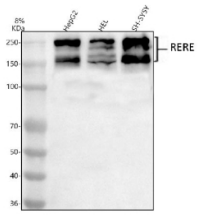
Catalog No.	Formulation	Size
FY13320	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

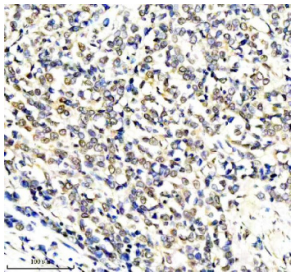
Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9P2R6
Localization	Nuclear
Applications	Western Blot: 0.25-0.5ug/ml Immunohistochemistry: 2-5ug/ml Immunocytochemistry: 5ug/ml Immunofluorescence: 5ug/ml Flow cytometry: 1-3ug/million cells ELISA: 0.1-0.5ug/ml
Limitations	This RERE antibody is available for research use only.



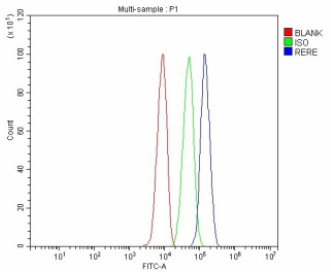
Immunofluorescent staining of RERE using anti-RERE antibody (green) and anti-Beta Tubulin antibody (red). RERE was detected in immunocytochemical section of human HeLa cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-RERE antibody and mouse anti-Beta Tubulin antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG and DyLight 594 Conjugated Goat Anti-Mouse IgG were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



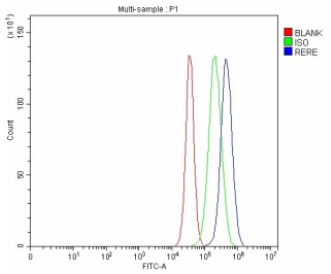
Western blot analysis of RERE using anti-RERE antibody. Lane 1: human HepG2 whole cell lysates, Lane 2: human Hela whole cell lysates, Lane 3: human SH-SY5Y whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-RERE 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. Predominant bands are detected at an approximately 170 kDa, consistent with the long RERE isoform, and additional higher bands appear between ~240 and 250 kDa. In HEL lysate both the 160-170 kDa and 240-250 kDa species resolve as doublets, which likely represent differently post translationally modified forms and higher molecular weight conjugates or complexes of the long RERE isoform rather than distinct proteins.



Immunohistochemical staining of RERE using anti-RERE antibody. RERE was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-RERE antibody overnight at 4oC. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37oC. The tissue section was developed using an HRP secondary and DAB substrate.



Flow Cytometry analysis of HepG2 cells using anti-RERE antibody. Overlay histogram showing HepG2 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-RERE 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.



Flow Cytometry analysis of U87 cells using anti-RERE antibody. Overlay histogram showing U87 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-RERE 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.

Description

RERE antibody detects Arginine-glutamic acid dipeptide repeats protein, a predominantly nuclear transcriptional coregulator encoded by the RERE gene on chromosome 1p36.23. RERE belongs to the atrophin protein family and functions as a transcriptional regulator that influences embryonic development, cell differentiation, and apoptosis. The protein localizes mainly to the nucleus but can also be found in the cytoplasm depending on signaling state. RERE acts as a transcriptional coregulator that modulates gene expression by interacting with nuclear receptors and chromatin-modifying enzymes, integrating developmental signals and apoptotic pathways.

RERE serves as both a coactivator and corepressor for nuclear receptors such as retinoic acid receptor (RAR) and histone deacetylases (HDACs), linking transcriptional regulation with epigenetic modification. It plays an essential role in

retinoic acid signaling, a pathway required for proper embryonic tissue differentiation. Through its interactions with transcription factors and epigenetic complexes, RERE controls gene expression patterns that direct neuronal patterning, heart formation, and eye morphogenesis. Its chromatin-association properties make it a central player in gene regulatory networks that define developmental outcomes.

Mutations or deletions in the RERE gene are associated with 1p36 deletion syndrome and RERE-related neurodevelopmental disorders, which cause developmental delay, hypotonia, and congenital malformations. Functional studies in model organisms show that loss of RERE disrupts neural crest migration, cardiac outflow tract formation, and craniofacial development. The protein's regulatory activity within retinoic acid signaling links it to both morphogenetic and metabolic control during embryogenesis.

At the molecular level, RERE interacts with HDAC1/2, p300/CBP, and other transcriptional repressors to modulate chromatin accessibility. These interactions determine whether RERE acts as a transcriptional activator or repressor depending on context. RERE also influences p53-dependent apoptosis and tumor suppression, highlighting its dual role in development and cancer. Reduced RERE expression has been observed in certain malignancies, suggesting a protective function against tumorigenesis.

Structurally, RERE contains an N-terminal Atrophin-1 domain, several arginine/glutamic acid-rich repeats, and nuclear localization signals that facilitate chromatin binding. Its modular architecture allows multiple protein interactions, and its Atrophin-like region contributes to transcriptional repression. Evolutionarily, RERE is conserved among vertebrates and classified within the atrophin family of transcriptional regulators, known for controlling gene silencing and differentiation. RERE is also implicated in pathways such as retinoic acid signaling and chromatin remodeling, reflecting its multifunctional nature.

Immunohistochemical staining using RERE antibody demonstrates nuclear localization in neurons, cardiac myocytes, and developing epithelia. The RERE antibody from NSJ Bioreagents is an excellent reagent for investigating transcriptional regulation, retinoic acid pathway dynamics, and developmental mechanisms at the molecular level.

Application Notes

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

Immunogen

E.coli-derived human RERE recombinant protein (Position: D109-H1037) was used as the immunogen for the RERE antibody.

Storage

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

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