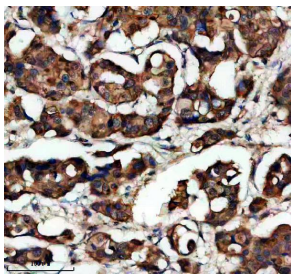
EFHD1 Antibody / EF-hand domain-containing protein D1 Antibody (FY13648)

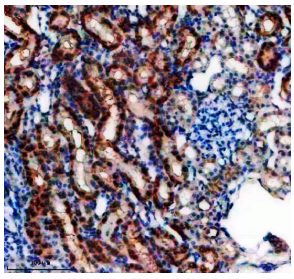
Catalog No.	Formulation	Size
FY13648	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

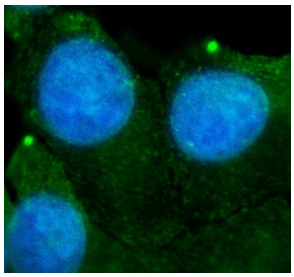
Species Reactivity	Human, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9BUP0
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence: 5ug/ml
Limitations	This EFHD1 Antibody / EF-hand domain-containing protein D1 Antibody is intended for research use only.



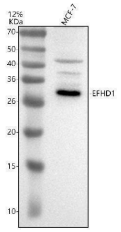
EFHD1 Antibody by IHC in human breast cancer tissue. Immunohistochemistry of paraffin-embedded human breast cancer tissue using EF-hand domain-containing protein D1 Antibody. Brown staining is evident within malignant epithelial structures, with blue nuclear counterstaining. Antigen retrieval was performed with EDTA buffer at pH 8.0, followed by 10% goat serum blocking. The primary antibody was incubated at 2 ug/ml overnight at 4oC, and signal was developed with a peroxidase-conjugated goat anti-rabbit secondary antibody and DAB.



EFHD1 Antibody by IHC in rat kidney tissue. Immunohistochemistry of paraffin-embedded rat kidney tissue using EF-hand domain-containing protein D1 Antibody. Brown DAB staining is evident in renal tubular structures, while the densely packed nuclei of a glomerular profile show blue counterstaining. The section underwent heat-mediated antigen retrieval in EDTA buffer at pH 8.0 and blocking with 10% goat serum. Primary antibody was applied at 2 ug/ml overnight at 4oC, followed by peroxidase-conjugated goat anti-rabbit IgG and DAB detection.



EFHD1 Antibody by IF in MCF-7 cells. Immunofluorescence of MCF-7 cells using EF-hand domain-containing protein D1 Antibody shows green extranuclear immunoreactivity surrounding DAPI-stained blue nuclei. Cells underwent enzyme-mediated antigen retrieval for 15 minutes, were blocked with 10% goat serum and incubated with 5 ug/ml primary antibody overnight at 4oC. Fluoro488-conjugated goat anti-rabbit IgG was used at 1:500, followed by DAPI nuclear counterstaining. The image demonstrates a predominantly cytoplasmic staining pattern without identifying a specific organelle.



EFHD1 Antibody by WB in MCF-7 cells. Western blot analysis using EF-hand domain-containing protein D1 Antibody on MCF-7 whole-cell lysate resolved by 12% SDS-PAGE. A prominent immunoreactive band appears near 27 kDa, consistent with the calculated EFHD1 molecular weight of approximately 26.9 kDa. Additional weaker bands are visible at higher molecular weights, but their identities are not established by this experiment. Detection used a rabbit primary antibody followed by an HRP-conjugated anti-rabbit secondary antibody and chemiluminescent substrate.

Description

EFHD1 Antibody / EF-hand domain-containing protein D1 Antibody targets a protein with important roles in cellular biology. EF-hand domain-containing protein D1 (EFHD1), also known as mitocalcin, is a calcium-binding protein associated with mitochondria. Its EF-hand motifs provide a structural basis for responding to calcium, a messenger that coordinates energy metabolism, cellular signaling and survival pathways. Calcium uptake into mitochondria can stimulate metabolic enzymes, but excessive calcium loading may compromise organelle function. Proteins positioned near these processes are therefore of interest in understanding how mitochondria interpret changing intracellular conditions.

EFHD1 has been described as a mitochondrial protein with calcium-binding capacity, although its complete physiological interaction network remains under investigation. EF-hand proteins commonly undergo calcium-dependent conformational changes that alter their interactions with other molecules. The presence of such motifs does not by itself establish a specific signaling pathway, so mechanistic assignments for EFHD1 require direct experimental evidence.

Mitochondrial calcium handling intersects with oxidative phosphorylation, reactive oxygen species production and communication between mitochondria and the endoplasmic reticulum. Changes in these processes may influence differentiation and responses to metabolic stress. EFHD1 expression has been investigated in cellular contexts where mitochondrial function changes, raising questions about whether it contributes to organelle adaptation or serves as a marker of particular metabolic states. Distinguishing those possibilities is important because correlated expression and functional control are not equivalent.

NSJ Bioreagents offers this EFHD1 Antibody to help explore the biological setting of mitocalcin and its potential participation in calcium-dependent mitochondrial regulation. Further characterization of its binding partners, localization and response to calcium fluctuations may reveal how this comparatively understudied EF-hand protein fits into mitochondrial signaling networks.

Explore related research targets in our Cell Biology Antibodies collection.

Application Notes

The appropriate working dilution of the EFHD1 Antibody / EF-hand domain-containing protein D1 Antibody should be optimized by the end user.

Immunogen

The EFHD1 Antibody was generated using a synthetic peptide corresponding to a sequence at the C-terminus of human

EFHD1.

Storage

After reconstitution, the EFHD1 Antibody may be stored at 4oC for up to one month. For longer storage, aliquot and freeze at -20oC for up to six months. Avoid repeated freezing and thawing.

Alternate Names

EFHD1 antibody, EF-hand domain-containing protein D1 antibody, EF-hand domain family member D1 antibody, MST133 antibody, MSTP133 antibody, PP3051 antibody, Swiprosin 2 antibody, SWS2 antibody

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