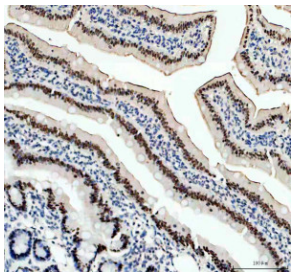
ITPKC Antibody / Inositol Trisphosphate 3-Kinase C Polyclonal Antibody (FY12625)

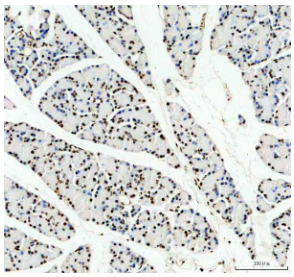
Catalog No.	Formulation	Size
FY12625	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

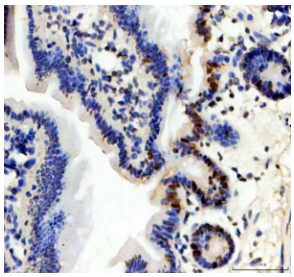
Species Reactivity	Human, Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q96DU7
Applications	ELISA: 0.1-0.5ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunoprecipitation: 2ug per 500ug of lysate Western Blot: 0.25-0.5ug/ml
Limitations	This ITPKC Antibody / Inositol Trisphosphate 3-Kinase C Polyclonal Antibody is available for research use only.



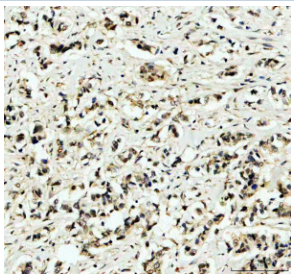
ITPKC Antibody by IHC in rat colon. Immunohistochemistry of FFPE rat colon tissue using ITPKC Antibody at 2 ug/ml. Well-defined colonic mucosal folds and glandular structures exhibit prominent brown staining along the epithelial lining, particularly near the basal nuclear regions. Numerous goblet cells appear as pale cytoplasmic spaces, while hematoxylin highlights blue-purple nuclei. Immunoreactivity is relatively continuous across portions of the mucosal epithelium. Heat-mediated antigen retrieval was performed in EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Inositol Trisphosphate 3-Kinase C Polyclonal Antibody demonstrates epithelial immunoreactivity in rat colon.



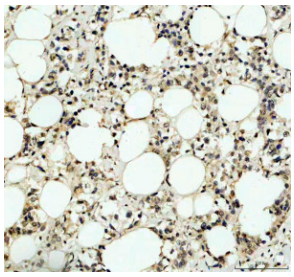
ITPKC Antibody by IHC in rat pancreas. Immunohistochemistry of FFPE rat pancreas tissue using ITPKC Antibody at 2 ug/ml. Pancreatic acinar structures exhibit brown immunoreactivity in numerous cells, with conspicuous punctate staining frequently overlapping nuclear regions. Staining intensity varies among adjacent acinar cells, while connective tissue septa show relatively little labeling. Hematoxylin counterstains nuclei blue-purple. Heat-mediated antigen retrieval was performed using EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Inositol Trisphosphate 3-Kinase C Polyclonal Antibody demonstrates ITPKC immunoreactivity in pancreatic tissue.



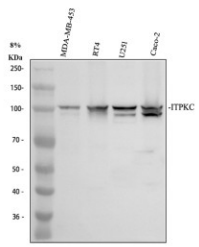
ITPKC Antibody by IHC in mouse colon. Immunohistochemistry of FFPE mouse colon tissue using ITPKC Antibody at 2 ug/ml. Brown immunoreactivity is concentrated in scattered epithelial cells and portions of the glandular structures, with prominent staining near the basal regions of several crypts. Much of the surrounding epithelium exhibits relatively weak staining, while nuclei are counterstained blue-purple. The heterogeneous pattern suggests localized ITPKC immunoreactivity within the intestinal mucosa. Heat-mediated antigen retrieval was performed in EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Inositol Trisphosphate 3-Kinase C Polyclonal Antibody demonstrates epithelial immunoreactivity.



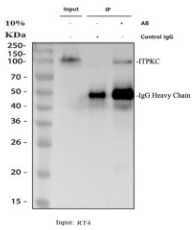
ITPKC Antibody by IHC in human breast cancer with fibrous stroma. Immunohistochemistry of FFPE human breast cancer tissue using ITPKC Antibody at 2 ug/ml. Irregularly distributed cells and small cellular clusters are visible within a fibrous stromal background. Brown immunoreactivity ranges from weak cytoplasmic staining to stronger labeling in scattered cells, while hematoxylin counterstains nuclei blue-purple. The heterogeneous distribution highlights ITPKC expression within the cellular components of the tissue. Heat-mediated antigen retrieval was performed using EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Inositol Trisphosphate 3-Kinase C Polyclonal Antibody demonstrates tissue immunoreactivity.



ITPKC Antibody by IHC in human breast cancer with adipose tissue. Immunohistochemistry of FFPE human breast cancer tissue using ITPKC Antibody at 2 ug/ml. The section contains numerous adipocytes surrounded by cellular tissue exhibiting light-to-moderate brown immunoreactivity, with stronger staining in scattered cells. Adipocyte lipid vacuoles remain unstained, while hematoxylin highlights blue-purple nuclei. Staining is predominantly extranuclear, although precise localization is difficult to establish. Heat-mediated antigen retrieval was performed in EDTA buffer at pH 8.0, followed by overnight primary antibody incubation at 4oC. This Inositol Trisphosphate 3-Kinase C Polyclonal Antibody demonstrates immunoreactivity within the cellular component of the tissue.



ITPKC Antibody by WB in MDA-MB-453, RT4, U251 and Caco-2 cells. Western blot analysis of human whole-cell lysates using rabbit polyclonal ITPKC Antibody. Lane 1: MDA-MB-453; lane 2: RT4; lane 3: U251; lane 4: Caco-2. Samples were separated by 8% SDS-PAGE under reducing conditions, with 30 ug loaded per lane. A prominent band is detected at approximately 100-105 kDa in all four samples, compared with the calculated molecular weight of 75 kDa. A similar apparent molecular weight has been reported in independent ITPKC antibody validation, although the reason for the higher-than-predicted migration remains unestablished. Additional weaker bands are visible in U251 and Caco-2. This Inositol Trisphosphate 3-Kinase C Polyclonal Antibody was used at 0.5 ug/ml.



ITPKC Antibody by IP and WB in RT4 cells. Immunoprecipitation of ITPKC from human RT4 whole-cell lysate using rabbit polyclonal ITPKC Antibody, followed by western blot detection. Lane 1: RT4 input lysate (30 ug); lane 2: rabbit control IgG IP; lane 3: IP using 2 ug of ITPKC antibody with 500 ug of RT4 lysate. Western blot detection was performed separately using the same antibody at 0.5 ug/ml. A band near 100-105 kDa is detected in the input and antibody IP lanes but is absent from the control IgG lane, supporting antibody-dependent enrichment. Prominent bands near 45-50 kDa correspond to IgG heavy chains. This Inositol Trisphosphate 3-Kinase C Polyclonal Antibody demonstrates IP activity under the tested conditions.

Description

ITPKC Antibody recognizes inositol 1,4,5-trisphosphate 3-kinase C (ITPKC), an enzyme involved in phosphoinositide metabolism and intracellular calcium signaling. Also known as IP3KC, this protein belongs to the inositol trisphosphate 3-kinase family, which catalyzes the phosphorylation of inositol 1,4,5-trisphosphate (IP3) to inositol 1,3,4,5-tetrakisphosphate (IP4). By regulating intracellular IP3 concentrations, ITPKC influences calcium release from the endoplasmic reticulum and downstream calcium-dependent signaling pathways.

The human ITPKC gene is located on chromosome 19 and encodes a protein of approximately 683 amino acids. ITPKC contains a conserved catalytic domain responsible for transferring a phosphate group from ATP to IP3. Unlike some related inositol phosphate kinases, ITPKC can localize to both the cytoplasm and nucleus, with nuclear import and export sequences contributing to its intracellular distribution. This localization may allow the enzyme to regulate distinct pools of inositol phosphates and influence signaling processes in different cellular compartments.

ITPKC plays an important regulatory role in immune cell activation. Following stimulation of cell surface receptors, phospholipase C generates IP3, which promotes calcium release from intracellular stores. Elevated cytoplasmic calcium activates calcineurin and nuclear factor of activated T cells (NFAT), supporting transcriptional programs involved in lymphocyte activation and proliferation. By converting IP3 to IP4, ITPKC helps limit the duration and intensity of calcium signaling. The Inositol Trisphosphate 3-Kinase C Polyclonal Antibody is therefore relevant to investigations of calcium-dependent immune regulation and phosphoinositide signaling.

Genetic variation in ITPKC has been associated with susceptibility to Kawasaki disease, an inflammatory condition affecting blood vessels, particularly the coronary arteries. Certain regulatory variants may reduce ITPKC expression, potentially increasing calcium-dependent NFAT signaling and inflammatory responses. Although the relationship between ITPKC polymorphisms and disease susceptibility varies among populations, these findings have established ITPKC as a protein of interest in cardiovascular inflammation and immune-mediated vascular disorders.

Beyond immune regulation, ITPKC contributes to the broader network of inositol phosphate metabolism, which coordinates calcium homeostasis, cellular communication, and responses to extracellular stimulation. Understanding the expression and regulation of this enzyme may provide insight into the mechanisms connecting phosphoinositide turnover with inflammatory signaling. NSJ Bioreagents offers this antibody for research into these biological processes. An ITPKC Antibody provides a tool for examining the expression of inositol trisphosphate 3-kinase C and investigating its role in calcium signaling and immune regulation.

For additional antibodies targeting proteins involved in intracellular signaling pathways, explore our Signal Transduction Antibodies collection.

Application Notes

Optimal dilution of the ITPKC Antibody / Inositol Trisphosphate 3-Kinase C Polyclonal Antibody should be determined by the researcher.

Immunogen

E.coli-derived human ITPKC recombinant protein (Position: D292-E607) was used as the immunogen for the ITPKC antibody.

Storage

After reconstitution, the ITPKC 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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