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CYPA Rabbit pAb

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Catalog # AP52228

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	P62937
Reactivity	Rat, Human, Mouse
Predicted	Pig, Dog, Rabbit
Host	Rabbit
Clonality	Polyclonal
Calculated MW	18012
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human Cyclophilin A.
Epitope Specificity	101-165/165
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Cytoplasm.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The immunosuppressant cyclosporin A (CsA) forms a trimolecular complex with cyclophilin and calcineurins to inhibit calcineurin phosphatase activity (1). Cyclophilins are conserved, ubiquitous and abundant cytosolic peptidyl-prolyl cis-trans isomerases that accelerate the isomerization of XaaPro peptide bonds and the refolding of proteins (2,3). Human cyclophilin A (CyPA), an intracellular protein of 165 amino acids, is the target of the CsA and is encoded by a single unique gene conserved from yeast to humans (4,5). CyPA is known for its involvement in T cell differentiation and proliferation and is highly expressed in brain (6). CyPA is incorporated into the virion of the type 1 human immunodeficiency virus (HIV-1) via a direct interaction with the capsid domain of the viral Gag polyprotein and is crucial for efficient viral replication (7,8). Cyclophilin B (CyPB) is a member of the cyclophilin family with specific N- and C-terminal extensions. Unlike CyPA, CyPB has a signal sequence leading to its translocation in the endoplasmic reticulum. CyPB is secreted in biological fluids such as blood or milk and binds to a specific receptor present on the human lymphoblastic cell line Jurkat and on human peripheral blood lymphocytes (9,10).

Additional Information

Gene ID	5478
Other Names	Peptidyl-prolyl cis-trans isomerase A, PPIase A, 5.2.1.8, Cyclophilin A, Cyclosporin A-binding protein, Rotamase A, Peptidyl-prolyl cis-trans isomerase A, N-terminally processed, PPIA, CYPA

Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1 g/Test
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	PPIA
Synonyms	CYPA
Function	Catalyzes the cis-trans isomerization of proline imidic peptide bonds in oligopeptides (PubMed:2001362, PubMed:20676357, PubMed:21245143, PubMed:21593166, PubMed:25678563). Exerts a strong chemotactic effect on leukocytes partly through activation of one of its membrane receptors BSG/CD147, initiating a signaling cascade that culminates in MAPK/ERK activation (PubMed:11943775, PubMed:21245143). Activates endothelial cells (ECs) in a pro-inflammatory manner by stimulating activation of NF-kappa-B and ERK, JNK and p38 MAP-kinases and by inducing expression of adhesion molecules including SELE and VCAM1 (PubMed:15130913). Induces apoptosis in ECs by promoting the FOXO1-dependent expression of CCL2 and BCL2L11 which are involved in EC chemotaxis and apoptosis (PubMed:31063815). In response to oxidative stress, initiates proapoptotic and antiapoptotic signaling in ECs via activation of NF-kappa-B and AKT1 and up-regulation of antiapoptotic protein BCL2 (PubMed:23180369). Negatively regulates MAP3K5/ASK1 kinase activity, autophosphorylation and oxidative stress-induced apoptosis mediated by MAP3K5/ASK1 (PubMed:26095851). Necessary for the assembly of TARDBP in heterogeneous nuclear ribonucleoprotein (hnRNP) complexes and regulates TARDBP binding to RNA UG repeats and TARDBP-dependent expression of HDAC6, ATG7 and VCP which are involved in clearance of protein aggregates (PubMed:25678563). Plays an important role in platelet activation and aggregation (By similarity). Regulates calcium mobilization and integrin ITGA2B:ITGB3 bidirectional signaling via increased ROS production as well as by facilitating the interaction between integrin and the cell cytoskeleton (By similarity). Binds heparan sulfate glycosaminoglycans (PubMed:11943775). Inhibits replication of influenza A virus (IAV) (PubMed:19207730). Inhibits ITCH/AIP4-mediated ubiquitination of matrix protein 1 (M1) of IAV by impairing the interaction of ITCH/AIP4 with M1, followed by the suppression of the nuclear export of M1, and finally reduction of the replication of IAV (PubMed:22347431, PubMed:30328013).
Cellular Location	Cytoplasm. Secreted Nucleus Cell membrane. Note=Secretion occurs in response to oxidative stress in vascular smooth muscle through a vesicular secretory pathway that includes Rho GTPase signaling, actin remodeling, and myosin II activation.

Background

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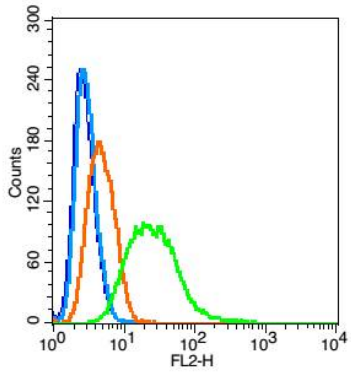
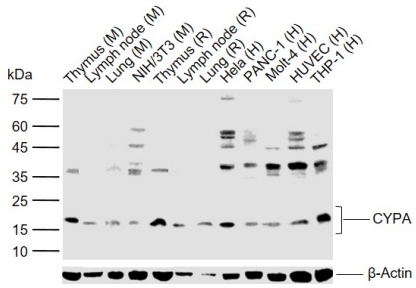
References

Haendler B.,et al.EMBO J. 6:947-950(1987).
Haendler B.,et al.Eur. J. Biochem. 190:477-482(1990).
Ota T.,et al.Nat. Genet. 36:40-45(2004).
Ebert L.,et al.Submitted (JUN-2004) to the EMBL/GenBank/DDBJ databases.
Goshima N.,et al.Nat. Methods 5:1011-1017(2008).

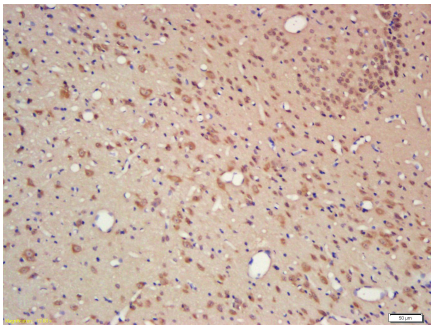
Images



Blank control(blue): Hela(fixed with 2% paraformaldehyde (10 min) , then permeabilized with 90% ice-cold methanol for 30 min on ice). Primary Antibody:Rabbit Anti- CYPA antibody(AP52228), Dilution: 1 µg in 100 µL 1X PBS containing 0.5% BSA; Isotype Control Antibody: Rabbit IgG(orange) ,used under the same conditions); Secondary Antibody: Goat anti-rabbit IgG-PE(white blue), Dilution: 1:200 in 1 X PBS containing 0.5% BSA.



Sample:
Lane 1: Mouse Thymus tissue lysates
Lane 2: Mouse Lymph node tissue lysates
Lane 3: Mouse Lung tissue lysates
Lane 4: Mouse NIH/3T3 cell lysates
Lane 5: Rat Thymus tissue lysates
Lane 6: Rat Lymph node tissue lysates
Lane 7: Rat Lung tissue lysates
Lane 8: Human Hela cell lysates
Lane 9: Human PANC-1 cell lysates
Lane 10: Human Molt-4 cell lysates
Lane 11: Human HUVEC cell lysates
Lane 12: Human THP-1 cell lysates
Primary: Anti- CYPA (AP52228) at 1/1000 dilution
Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution
Predicted band size: 18 kDa
Observed band size: 18 kDa



Tissue/cell: rat brain tissue; 4% Paraformaldehyde-fixed and paraffin-embedded;
Antigen retrieval: citrate buffer (0.01M, pH 6.0), Boiling bathing for 15min; Block endogenous peroxidase by 3% Hydrogen peroxide for 30min; Blocking buffer (normal goat serum,C-0005) at 37℃ for 20 min;
Incubation: Anti-CYPA Polyclonal Antibody, Unconjugated(AP52228) 1:200, overnight at 4°C, followed by conjugation to the secondary antibody(SP-0023) and DAB(C-0010) staining

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.