

Rabbit EPRS Polyclonal Antibody | anti-EPRS antibody

Phospho-EPRS (Ser886) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA31307	Rabbit	Human, Mouse, Rat	Western Blot, Immunohistochemistry, Immunofluorescence, Immunocytochemistry, ELISA

PRODUCT SYNONYMS

EPRS; Polyclonal Antibody; Phospho-EPRS (Ser886) Antibody; Bifunctional aminoacyl tRNA synthetase; Bifunctional aminoacyl-tRNA synthetase; Bifunctional glutamate/proline tRNA ligase; Cell proliferation-inducing gene 32 protein; DKFZp313B047; EARS; Eprs; GLNS; Glu pro tRNA synthetase; GLUPRORS; GluRS; Glutamate tRNA ligase; Glutamatyl prolyl tRNA synthetase; Glutaminyl tRNA synthetase; Glutamyl prolyl tRNA synthetase; Glutamyl tRNA synthetase; Glutamyl-tRNA synthetase; PARS; PIG 32; PIG32; Proliferation inducing gene 32 protein; Proliferation inducing protein 32; Proline tRNA ligase; Proline--tRNA ligase; Prolyl tRNA synthetase; Prolyl-tRNA synthetase; QARS; QPRS; SYEP_HUMAN; anti-EPRS antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-EPRS (Ser886) Antibody detects endogenous levels of EPRS only when phosphorylated at Ser886.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-EPRS antibody	WB (Western Blot), IHC (Immunohistochemistry), IF (Immunofluorescence), ICC (Immunocytochemistry), ELISA (Peptide ELISA)
Application Notes	IHC: 1:50-1:200 IF/ICC: 1:100-1:500 WB: 1:500-1:2000 Peptide ELISA: 1:20,000-1:40,000
Immunogen	A synthesized peptide derived from human EPRS around the phosphorylation site of Ser886.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Phosphorylated at Ser-886 by CDK5. Phosphorylated at Ser-999 by RPS6KB1; triggers EPRS1 release from the aminoacyl-tRNA synthetase multienzyme complex. In monocytes, the IFN-gamma-induced sequential phosphorylation at Ser-886 and Ser-999 releases EPRS1 from the aminoacyl-tRNA synthetase multienzyme complex, allowing its association with the GAIT complex. Phosphorylation at Ser-999 is specifically required for the RPL13A-mediated interaction of the GAIT complex with eIF4G. Phosphorylation at Ser-999 by RPS6KB1, is also induced by insulin through activation of the mTORC1 signaling pathway and promotes the interaction of EPRS1 with SLC27A1.

Subunit Structure	Homodimer. Part of the aminoacyl-tRNA synthetase multienzyme complex, also know as multisynthetase complex (MSC), that is composed of the tRNA ligases for Arg (RARS1), Asp (DARS1), Gln (QARS1), Ile (IARS1), Leu (LARS1), Lys (KARS1), Met (MARS1) the bifunctional ligase for Glu and Pro (EPRS1) and the auxiliary subunits AIMP1/p43, AIMP2/p38 and EEF1E1/p18. Forms a linear complex that contains MARS1, EEF1E1, EPRS1 and AIMP2 that is at the core of the multisubunit complex. Interacts with TARS3. Interacts with DUS2L. Component of the GAIT complex which is composed of EPRS1, RPL13A and GAPDH. For human, the complex assembly seems to be a two-step process in which EPRS1 first associates with SYNCRIP to form a pre-GAIT complex which is deficient in GAIT element binding. Interacts (phosphorylated at Ser-999) with SLC27A1; mediates the translocation of SLC27A1 from the cytoplasm to the plasma membrane thereby increasing the uptake of long-chain fatty acids.
Similarity	The WHEP-TRS domains are involved in RNA binding.In the N-terminal section; belongs to the class-I aminoacyl-tRNA synthetase family. Glutamate--tRNA ligase type 2 subfamily.In the C-terminal section; belongs to the class-II aminoacyl-tRNA synthetase family.
Subcellular Location	Cytoplasm>Cytosol. Membrane>Peripheral membrane protein. Note: Translocates from cytosol to membranes upon phosphorylation at Ser-999.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES



Application Data

At 25 degree C. Samples were then incubated with primary Ab(At 37 degree C. An AlexaFluor594 conjugated goat anti-rabbit IgG(H+L) Ab(Red) and an AlexaFluor488 conjugated goat anti-mouse IgG(H+L) Ab(Green) were used as the secondary antibody.The nuclear counter stain is DAPI (blue).



IHC (Immunohistochemistry)

At 1/100 staining Human pancreatic cancer and adjacent nomal tissues by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

At 1/100 staining Mouse brain tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

At 1/100 staining Rat heart tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



IHC (Immunohistochemistry)

Staining Rat brain tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the primary antibody at 4 degree C overnight. An HRP conjugated anti-Rabbit antibody was used as the secondary antibody.



WB (Western Blot)

Western blot analysis of extracts from Hela cells(serum starvation treatment), using Phospho-EPRS (Ser886) Antibody. The lane on the left was treated with blocking peptide.

ADDITIONAL INFORMATION

Related Product Information for anti-EPRS antibody

Multifunctional protein which is primarily part of the aminoacyl-tRNA synthetase multienzyme complex, also know as multisynthetase complex, that catalyzes the attachment of the cognate amino acid to the corresponding tRNA in a two-step reaction: the amino acid is first activated by ATP to form a covalent intermediate with AMP and is then transferred to the acceptor end of the cognate tRNA. The phosphorylation of EPRS1, induced by interferon-gamma, dissociates the protein from the aminoacyl-tRNA synthetase multienzyme complex and recruits it to the GAIT complex that binds to stem loop-containing GAIT elements in the 3'-UTR of diverse inflammatory mRNAs (such as ceruplamin), suppressing their translation. Interferon-gamma can therefore redirect, in specific cells, the EPRS1 function from protein synthesis to translation inhibition. Also functions as an effector of the mTORC1 signaling pathway by promoting, through SLC27A1, the uptake of long-chain fatty acid by adipocytes. Thereby, it also plays a role in fat metabolism and more indirectly influences lifespan.

NCBI AND UNIPROT INFORMATION

NCBI GI #	62241042
NCBI GeneID	2058
NCBI Accession #	NP_004437.2
NCBI GenBank Nucleotide #	NM_004446.2
UniProt Accession #	P07814; Q05BP6; Q05DF8; Q5DSM1; Q5H9S5; Q6PD57; Q86X73; A0AVA9; B9EGH3
Molecular Weight	170,591 Da
NCBI Official Full Name	bifunctional glutamate/proline--tRNA ligase
NCBI Official Synonym Full Names	glutamyl-prolyl-tRNA synthetase
NCBI Official Symbol	EPRS
NCBI Official Synonym Symbols	EARS; PARS; QARS; QPRS; PIG32; GLUPRORS
NCBI Protein Information	bifunctional glutamate/proline--tRNA ligase
UniProt Protein Name	Bifunctional glutamate/proline--tRNA ligase
UniProt Gene Name	EPRS
UniProt Synonym Gene Names	GLNS; PARS; QARS; QPRS; GluRS

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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