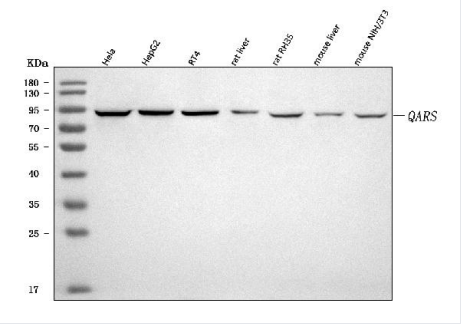
QARS1 Antibody – Rabbit Polyclonal

PRODUCT OVERVIEW

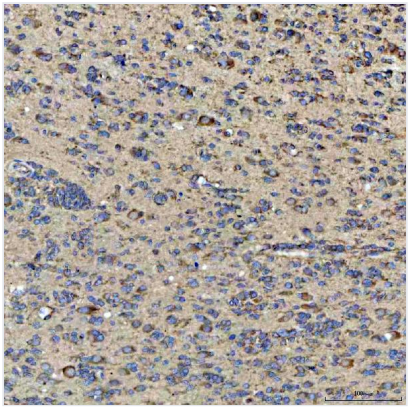
Product Name	QARS1, Polyclonal Antibody
Full Product Name	Anti-QARS1 Antibody Picoband
Product Gene Name	anti-QARS1 antibody
Product Synonym Names	ADAM metallopeptidase domain 28; aldo-keto reductase family 7 member A2; Aflatoxin B1 aldehyde reductase member 2; AFB1 aldehyde reductase 1; AFB1-AR 1; Aldoketoreductase 7; Succinic semialdehyde reductase; SSA reductase; AKR7A2; AFAR; AFAR1; AKR7
Clonality	Polyclonal
Isotype	Rabbit IgG
Host	Rabbit
Species Reactivity	Human, Mouse, Rat
Form/Format	Lyophilized. Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Purity/Purification	Immunogen affinity purified.
Specificity	Expressed in basement membranes of lung and kidney. Muscle- and neuron-specific isoforms are found. Isoforms (y+) with the 4 AA insert and (z+8) isoforms with the 8 AA insert are all neuron-specific. Isoforms (z+11) are found in both neuronal and non-neuronal tissues.
Preparation and Storage	At -20 degree C for one year from date of receipt. After reconstitution, at 4 degree C for one month. It can also be aliquotted and stored frozen at -20 degree C for six months.Avoid repeated freezing and thawing.
Molecular Weight	86,579 Da
OMIM	603727
3D Structure	ModBase 3D Structure for P47897
Immunogen	E coli-derived human QARS1 recombinant protein (Position: Q32-K774).
Subcellular Localization	Golgi apparatus. Cytoplasm.
Reconstitution	Adding 0.2 ml of distilled water will yield a concentration of 500ug/ml.
Cross Reactivity	No cross-reactivity with other proteins.
Protein Function	Catalyzes the NADPH-dependent reduction of succinic semialdehyde to gamma-hydroxybutyrate. May have an important role in producing the neuromodulator gamma-hydroxybutyrate (GHB). Has broad substrate specificity. Has NADPH-dependent aldehyde reductase activity towards 2-carboxybenzaldehyde, 2-nitrobenzaldehyde and pyridine-2-aldehyde (in vitro). Can reduce 1,2-naphthoquinone and 9,10-phenanthrenequinone (in vitro). Can reduce the dialdehyde protein-binding form of aflatoxin B1 (AFB1) to the non-binding AFB1 dialcohol. May be involved in protection of liver against the toxic and carcinogenic effects of AFB1, a potent hepatocarcinogen.
Product Categories/Family for anti-QARS1 antibody	Primary Antibodies; Epigenetics and Nuclear Signaling; Pol II Transcription; Polymerase Associated Factors; Transcription
ISO Certification	Manufactured in an ISO 13485:2003 and EN ISO 13485:2012 Certified Laboratory.
Applications Tested/Suitable for anti-QARS1 antibody	Western Blot (WB), Immunohistochemistry (IHC), Immunocytochemistry (ICC), Immunofluorescence (IF), Flow Cytometry (FC/FACS), ELISA (EIA)

Application Notes for anti-QARS1 antibody	WB: 0.25-0.5ug/ml, Human, Mouse, Rat IHC(Paraffin-embedded Section): 2-5ug/ml, Human ICC/IF: 5ug/ml, Human IF: 5ug/ml, Human FC/FACS (Fixed): 1-3ug/1x10^6 cells, Human ELISA: 0.1-0.5ug/ml
Related Product Information for anti-QARS1 antibody	The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Product References and Citations for anti-QARS1 antibody	1. Lamour, V., Quevillon, S., Diriong, S., N'Guyen, V. C., Lipinski, M., Mirande, M. Evolution of the Glx-tRNA synthetase family: the glutaminyl enzyme as a case of horizontal gene transfer. Proc. Nat. Acad. Sci. 91: 8670-8674, 1994.2. Lo, W.-S., Gardiner, E., Xu, Z., Lau, C.-F., Wang, F., Zhou, J. J., Mendlein, J. D., Nangle, L. A., Chiang, K. P., Yang, X.-L., Au, K.-F., Wong, W. H., Guo, M., Zhang, M., Schimmel, P. Human tRNA synthetase catalytic nulls with diverse functions. Science 345: 328-332, 2014.3. Zhang, X., Ling, J., Barcia, G., Jing, L., Wu, J., Barry, B. J., Mochida, G. H., Hill, R. S., Weimer, J. M., Stein, Q., Poduri, A., Partlow, J. N., and 13 others. Mutations in QARS, encoding glutaminyl-tRNA synthetase, cause progressive microcephaly, cerebral-cerebellar atrophy, and intractable seizures. Am. J. Hum. Genet. 94: 547-558, 2014.
Other Notes	Small volumes of anti-QARS1 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for QARS1 purchase	MBS1758771 is an antibody targeting QARS1. Also known as Anti-QARS1 Antibody Picoband. Reactive in Human, Mouse, Rat. Host: Rabbit.



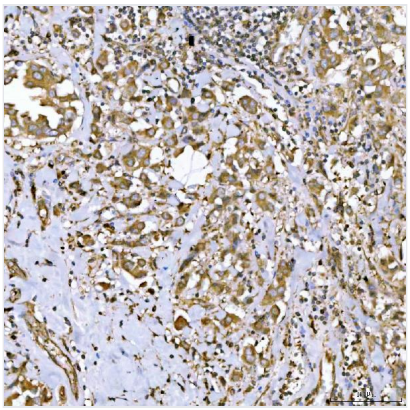
Western Blot (WB) of anti-QARS1 antibody

Figure 1. Western blot analysis of QARS1 using anti-QARS1 antibody (MBS1758771).Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel)/90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions.Lane 1: human Hela whole cell lysates,Lane 2: human HepG2 whole cell lysates,Lane 3: human RT4 whole cell lysates,Lane 4: rat liver tissue lysates,Lane 5: rat RH35 whole cell lysates,Lane 6: mouse liver tissue lysates,Lane 7: mouse NIH/3T3 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-QARS1 antigen affinity purified polyclonal antibody (#MBS1758771) at 0.5ug/mL overnight at 4 degree C, 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 is developed using an Enhanced Chemiluminescent detection (ECL) kit (#MBS176460) with Tanon 5200 system. A specific band was detected for QARS1 at approximately 88 kDa. The expected band size for QARS1 is at 88 kDa.



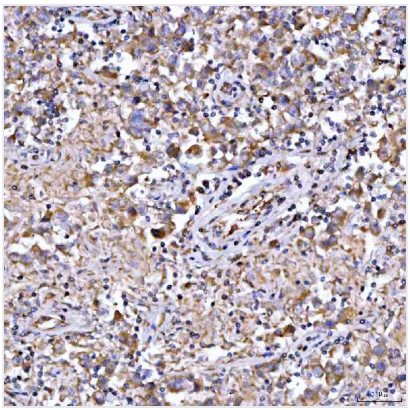
Immunohistochemistry (IHC) of anti-QARS1 antibody

Figure 2. IHC analysis of QARS1 using anti-QARS1 antibody (MBS1758771).QARS1 was detected in a paraffin-embedded section of human glioblastoma 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 2ug/ml rabbit anti-QARS1 Antibody (MBS1758771) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



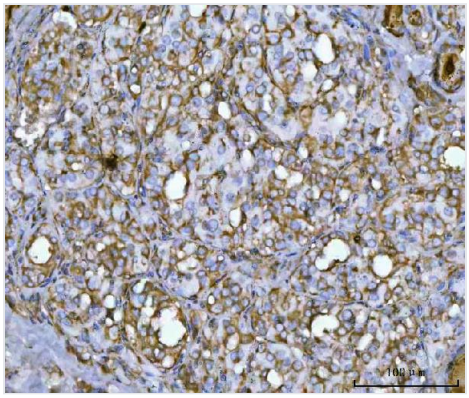
Immunohistochemistry (IHC) of anti-QARS1 antibody

Figure 3. IHC analysis of QARS1 using anti-QARS1 antibody (MBS1758771).QARS1 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 2ug/ml rabbit anti-QARS1 Antibody (MBS1758771) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



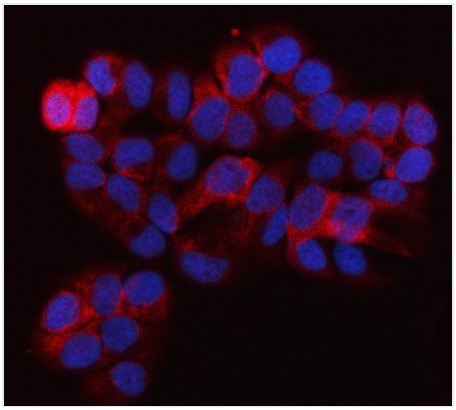
Immunohistochemistry (IHC) of anti-QARS1 antibody

Figure 4. IHC analysis of QARS1 using anti-QARS1 antibody (MBS1758771).QARS1 was detected in a paraffin-embedded section of human testicular seminoma 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 2ug/ml rabbit anti-QARS1 Antibody (MBS1758771) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.



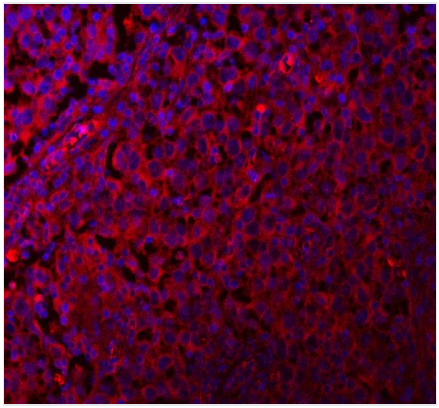
Immunohistochemistry (IHC) of anti-QARS1 antibody

Figure 5. IHC analysis of QARS1 using anti-QARS1 antibody (MBS1758771).QARS1 was detected in a paraffin-embedded section of human thyroid 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 2ug/ml rabbit anti-QARS1 Antibody (MBS1758771) overnight at 4 degree C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 degree C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (#MBS176453) with DAB as the chromogen.

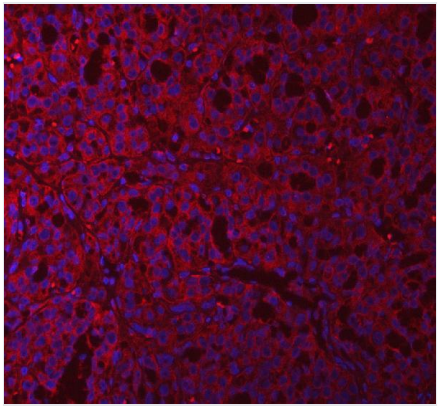


Immunofluorescence (IF) of anti-QARS1 antibody

Figure 6. IF analysis of QARS1 using anti-QARS1 antibody (MBS1758771).QARS1 was detected in an immunocytochemical section of T-47D cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (#MBS176582) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5ug/mL rabbit anti-QARS1 Antibody (MBS1758771) overnight at 4 degree C. DyLight550 Conjugated Goat Anti-Rabbit IgG (BA1135) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Immunofluorescence (IF) of anti-QARS1 antibody
Figure 7. IF analysis of QARS1 using anti-QARS1 antibody (MBS1758771).QARS1 was detected in a paraffin-embedded section of human testicular 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 5ug/mL rabbit anti-QARS1 Antibody (MBS1758771) overnight at 4 degree C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Immunofluorescence (IF) of anti-QARS1 antibody
Figure 8. IF analysis of QARS1 using anti-QARS1 antibody (MBS1758771).QARS1 was detected in a paraffin-embedded section of human thyroid carcinoma 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 5ug/mL rabbit anti-QARS1 Antibody (MBS1758771) overnight at 4 degree C. Cy3 Conjugated Goat Anti-Rabbit IgG (BA1032) was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37 degree C. The section was counterstained with DAPI. Visualize using a fluorescence microscope and filter sets appropriate for the label used.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for QARS1. It may not necessarily be applicable to this product.

NCBI GI #	4826960
NCBI GeneID	5859
NCBI Accession #	NP_005042
UniProt Primary Accession #	P47897
UniProt Secondary Accession #	B4DWJ2
UniProt Related Accession #	P47897
GenBank Nucleotide #	NM_005051
NCBI Official Full Name	glutamine--tRNA ligase isoform a
NCBI Official Synonym Full Names	glutaminyl-tRNA synthetase
NCBI Official Symbol	QARS
NCBI Official Synonym Symbols	GLNRS; MSCCA; PRO2195
UniProt Protein Name	Glutamine--tRNA ligase
UniProt Synonym Protein Names	Glutaminyl-tRNA synthetase; GlnRS
UniProt Gene Name	QARS
UniProt Synonym Gene Names	GlnRS
UniProt Entry Name	SYQ_HUMAN
NCBI Protein Information	glutamine--tRNA ligase; glutamine-tRNA synthetase
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