Data Sheet (Cat.No.TMAB-00754)

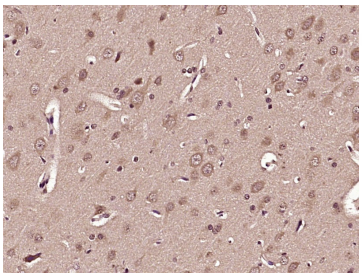
Anti-Gclc Polyclonal Antibody

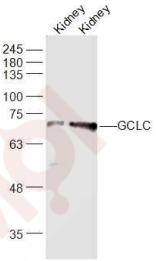
Product Details

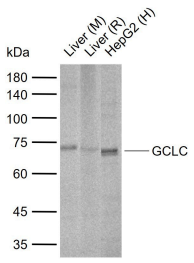
Ig Type:	IgG
Reactivity:	Human,Mouse,Rat (predicted:Chicken,Dog,Pig,Cow,Horse,Rabbit,Zebrafish)
Molecular Weight:	Theoretical: 73 kDa. Actual: 73 kDa.
Purification:	Protein A purified

Applications

Verified Activity:	1. Paraformaldehyde-fixed, paraffin embedded (Rat brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 min; Blocking buffer (normal goat serum) at 37°C for 30 min; Antibody incubation with (GCLC) Polyclonal Antibody, Unconjugated (TMAB-00754) at 1:400 overnight at 4°C, followed by operating according to SP Kit (Rabbit) instructionsand DAB staining. 2. Sample: Kidney (Mouse) Lysate at 40 µg Kidney (Rat) Lysate at 40 µg Primary: Anti-GCLC (TMAB-00754) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 73 kDa Observed band size: 73 kDa 3. Sample: Lane 1: Mouse Liver tissue lysates Lane 2: Rat Liver tissue lysates Lane 3: Human HepG2 cell lysates Primary: Anti-GCLC (TMAB-00754) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 73 kDa Observed band size: 73 kDa







Application: IF,IHC-Fr,IHC-P,WB

Recommended: WB: 1:500-2000; IHC-P: 1:100-500; IHC-Fr: 1:100-500; IF: 1:100-500

Properties

Stability & Storage: Store at -20°C or -80°C for 12 months. Avoid repeated freeze-thaw cycles.

Shipping: Shipping with blue ice.

Antigen Details

Immunogen: KLH conjugated synthetic peptide: human GCLC

Antigen Species: Human

Gene ID: 2729

Uniprot ID: P48506

Synonyms: Gamma-ECS;Glutamate--cysteine ligase catalytic subunit;Glclc;GCS heavy chain;Gclc;Gamma-glutamylcysteine synthetase

Biology Area: Mitochondrial,Oxidative stress,Mitochondrial markers,Oxidative Stress,Other Antibodies

Research Background

The GCLC gene consists of 16 exons and encodes the 636 amino acid protein g-GCSc (g-glutamylcysteine synthetase heavy subunit), also designated g-L-glutamate-L-cysteine ligase catalytic subunit (GLCLC). g-GCSc is expressed in hemocytes, brain, liver and kidney. g-GCSc associates with a regulatory or modifier subunit, g-GCSm (g-glutamylcysteine synthetase light subunit), to form a heterodimer, g-GCS. g-GCS is the first enzyme involved and the rate determining step in glutathione biosynthesis. Oxidants, cadium and methyl mercury upregulate the transcription of g-GCS. H2O2 regulation depends on the Yap1 protein and the presence of glutamate, glutamine and lysine. Cadium regulates transcription through proteins Met-4, Met-31 and Met-32. Cbf1, a DNA binding protein, inhibits transcription of g-GCS. Chemopreventive compounds cause increased levels of g-GCSc in kidney tissues, which may protect against chemically induced carcinogenesis. A His370Leu amino acid change in g-GCSc causes deficiencies in activity which are responsible for hemolytic anemia and low red blood cell glutathione levels. Defects in GCLC are the cause of hemolytic anemia.

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