Data Sheet (Cat.No.TMAB-06566)

Anti-Glutathione Synthetase Polyclonal Antibody

Product Details

Ig Type:	IgG
Reactivity:	Human,Mouse,Rat (predicted:Dog,Pig,Cow,Horse,Sheep)
Molecular Weight:	Theoretical: 52 kDa. Actual: 50/40 kDa.
Purification:	Protein A purified

Applications

Verified Activity:	1. Sample: Lane 1: Cerebrum (Mouse) Lysate at 40 μg Lane 2: Kidney (Mouse) Lysate at 40 μg Lane 3: Cerebrum (Rat) Lysate at 40 μg Lane 4: Hela (Human) Cell Lysate at 30 μg Lane 5: HT1080 (Human) Cell Lysate at 30 μg Lane 6: SW480 (Human) Cell Lysate at 30 μg Lane 7: HepG2 (Human) Cell Lysate at 30 μg Primary: Anti-Glutathione Synthetase (TMAB-06566) at 1/1000 dilution Secondary: IRDye800CW Goat Anti-Rabbit IgG at 1/20000 dilution Predicted band size: 52/40 kD Observed band size: 50/40 kD 2. Paraformaldehyde-fixed, paraffin embedded (mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15 min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30 min; Antibody incubation with (Glutathione Synthetase) Polyclonal Antibody, Unconjugated (TMAB-06566) at 1: 200 overnight at 4°C, followed by operating according to SP Kit (Rabbit) instructions and DAB staining.
Application:	WB,IHC-P,IHC-Fr,IF
Recommended	WB: 1:500-2000; IHC-P: 1:100-500; IHC-Fr: 1:100-500; IF: 1:100-500

Properties

Stability & Storage:	Store at 2°C-8°C for 1 month. 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 Glutathione Synthetase
Antigen Species:	Human
Gene ID:	2937
Uniprot ID:	P48637

Research Background

GSS (Glutathione synthetase) is a 474 amino acid protein encoded by the gene located at human chromosome 20q11.2. GSS consists of three loops projecting from an antiparallel ∫-sheet, a parallel ∫-sheet and a lid of anti-parallel sheets, which provide access to the ATP-binding site. Although Southern blot and gene analysis suggest that GSS may be the only member of a unique family, the crystal structure indicates that GSS belongs to the ATP-GRASP superfamily. GSS is expressed in hemocytes and nucleated cells, including the brain. GSS occurs as a homodimer. There are two steps in the production of Glutathione, begining with GSS (Glutathione synthetase) is a 474 amino acid protein encoded by the gene located at human chromosome 20q11.2. GSS consists of three loops projecting from an antiparallel ∫-sheet, a parallel ∫-sheet and a lid of anti-parallel sheets, which provide access to the ATP-binding site. Although Southern blot and gene analysis suggest that GSS may be the only member of a unique family, the crystal structure indicates that GSS belongs to the ATP-GRASP superfamily. GSS is expressed in hemocytes and nucleated cells, including the brain. GSS occurs as a homodimer. There are two steps in the production of Glutathione, begining with ©-GCS and ending with GSS. In an ATP-dependent reaction, GSS produces Glutathione from ©-glutamylcysteine and glycine precursors. Partial hepatectomy, diethyl maleate, buthionine sulfoximine, tert-butylhaydroquinone and thioacetamide increase the ex-pression of GSS, which causes an increase in Glutathione levels. An inherited autosomal recessive disorder, 5-oxoprolinuria (pyroglutamic aciduria), is caused by GSS deficiencies, which leads to central nervous system damage, hemolytic anemia, metabolic acidosis and urinary excretion of 5-oxoproline. A missense mutation in the gene encoding GSS leads to a GSS deficiency restricted to erythrocytes, which causes only hemolytic anemia.-GCS and ending with GSS. In an ATP-dependent reaction, GSS produces Glutathione from ©-glutamylcysteine and glycine precursors. Partial hepatectomy, diethyl maleate, buthionine sulfoximine, tert-butylhaydroquinone and thioacetamide increase the ex-pression of GSS, which causes an increase in Glutathione levels. An inherited autosomal recessive disorder, 5-oxoprolinuria (pyroglutamic aciduria), is caused by GSS deficiencies, which leads to central nervous system damage, hemolytic anemia, metabolic acidosis and urinary excretion of 5-oxoproline. A missense mutation in the gene encoding GSS leads to a GSS deficiency restricted to erythrocytes, which causes only hemolytic anemia.

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