

Glutaminase-1/GLS1 Antibody



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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications: W	Reactivity: H	Sensitivity: Endogenous	MW (kDa): 55-65	Source/Isotype: Rabbit	UniProt ID: #O94925	Entrez-Gene Id: 2744
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Glutaminase-1/GLS1 Antibody recognizes endogenous levels of total glutaminase-1/GLS1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly116 of human glutaminase-1/GLS1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Glutaminase catalyzes the conversion of glutamine to glutamate, the first and rate-limiting step of glutaminolysis (1). Both kidney-type glutaminase (GLS1) and liver-type glutaminase (GLS2) are found in mammals (2). GLS1-mediated glutathione synthesis plays an essential role in redox homeostasis and contributes to increased survival of postimplantation bone cells preconditioned to the hypoxic and ischemic environment in the bone defect site (3). In addition, *KEAP1-NRF2*-mutant LUAD (*KRAS*-mutant lung adenocarcinoma) tumors are dependent on increased glutaminolysis (1). Furthermore, recent studies showed higher glutaminolysis and glucose production from glutamine in human primary hepatocytes with *GLS2* gain-of-function missense mutations (4). These findings suggest GLS1 and GLS2 as potential targets in the therapy of bone regeneration and in the treatments of diseases such as cancer and hyperglycemia, respectively (1,3,4).

Background References

1. Romero, R. et al. (2017) *Nat Med* 23, 1362-1368.
2. Aledo, J.C. et al. (2000) *Mamm Genome* 11, 1107-10.
3. Stegen, S. et al. (2016) *Cell Metab* 23, 265-79.
4. Miller, R.A. et al. (2018) *Nat Med* 24, 518-524.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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