

# GCLM (JM93-61)

rev. 13/10/17  
Cat#: ET1705-87

**Product Type:** Recombinant rabbit monoclonal IgG, primary antibodies

**Species reactivity:** Human, Mouse, Rat

**Applications:** WB, ICC/IF, IHC, FC, IP

**Molecular Wt.:** 31 kDa

**Clone number:** JM93-61

**Description:** Gamma-glutamylcysteine synthetase ( $\gamma$ -GCS) is the rate limiting enzyme for glutathione (L-gamma-glutamyl-L-cysteinylglycine, GSH) synthesis. GSH is ubiquitous in mammalian cells as a vital intra- and extracellular protective antioxidant.  $\gamma$ -GCS is a heterodimer of a heavy catalytic subunit and a light regulatory subunit that is responsive to inflammation, phenolic antioxidants, heat shock, oxidants and cytokines. The human gamma-GCS gene encoding the 367 amino acid catalytic subunit maps to chromosome 6p12. The human  $\gamma$ -GCS gene encoding the regulatory subunit maps to chromosome 1p22-p21. The two subunits of  $\gamma$ -GCS form a heterodimeric zinc metalloprotein that gains activity through formation of a reversible disulfide bond.

**Immunogen:**

Recombinant protein.

**Positive control:**

A431, PC-12, NIH-3T3, HeLa, A549, human colon cancer tissue, human pancreas tissue, mouse small intestine tissue.

**Subcellular location:**

Cytosol.

**Database links:**

SwissProt: P48507 (Human) 009172 (Mouse) P48508 (Rat)

**Recommended Dilutions:**

**WB:** 1:500-1:1,000      **ICC:** 1:50-1:200  
**IHC:** 1:50-1:100      **FC:** 1:50-1:100

**Storage Buffer:**

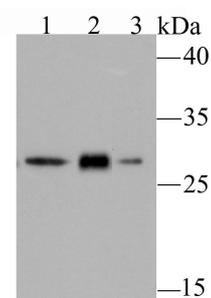
1\*TBS (pH7.4), 1%BSA, 40%Glycerol. Preservative: 0.05% Sodium Azide.

**Storage Instruction:**

Store at +4° C after thawing. Aliquot store at -20° C or -80° C. Avoid repeated freeze / thaw cycles.

**Purity:**

ProA affinity purified.



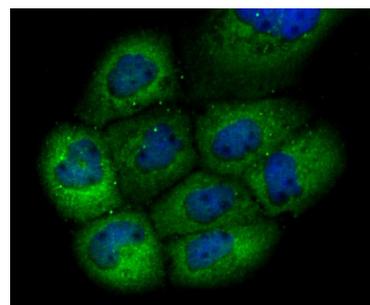
**Fig1:** Western blot analysis of GCLM on different cell lysates using anti-GCLM antibody at 1/500 dilution.

**Positive control:**

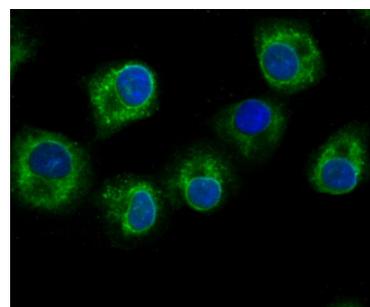
**Lane 1: A431**

**Lane 2: PC-12**

**Lane 3: NIH-3T3**



**Fig2:** ICC staining GCLM in A431 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.



**Fig3:** ICC staining GCLM in A549 cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.

Hangzhou HuaAn Biotechnology Co.,Ltd.

Orders: 0086-571-88062880

Support: 0086-571-89986345

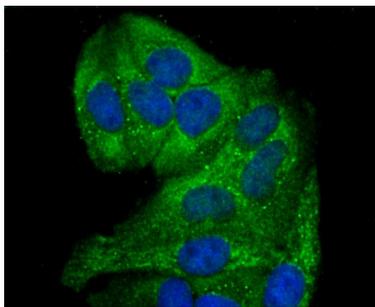
Service mail: tech@huabio.com

www.huabio.com

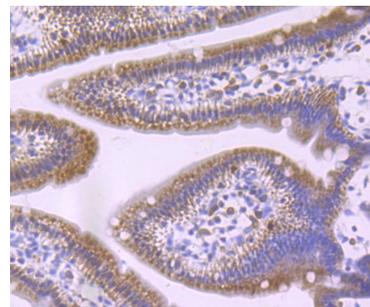


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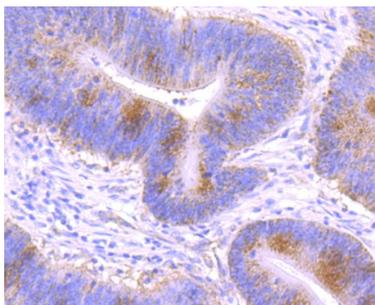
Applications: WB=Western blot IP=Immunoprecipitation IHC=Immunohistochemistry IF=Immunofluorescence FC=Flow cytometry  
Species Cross-Reactivity: H=human M=mouse R=rat Hm=hamster Mk=monkey Mi=mink C=chicken Dm=D.melanogaster X=Xenopus Z=zebrafish  
B=bovine Dg=dog Pg=pig Sc=S.



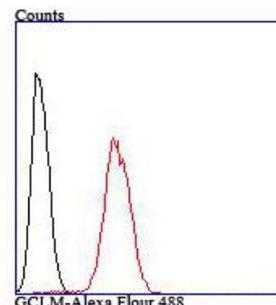
**Fig4:** ICC staining GCLM in HeLa cells (green). The nuclear counter stain is DAPI (blue). Cells were fixed in paraformaldehyde, permeabilised with 0.25% Triton X100/PBS.



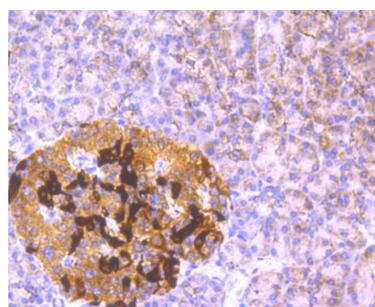
**Fig7:** Immunohistochemical analysis of paraffin-embedded mouse small intestine tissue using anti-GCLM antibody. Counter stained with hematoxylin.



**Fig5:** Immunohistochemical analysis of paraffin-embedded human colon cancer tissue using anti-GCLM antibody. Counter stained with hematoxylin.



**Fig8:** Flow cytometric analysis of HeLa cells with GCLM antibody at 1/100 dilution (red) compared with an unlabelled control (cells without incubation with primary antibody; black).



**Fig6:** Immunohistochemical analysis of paraffin-embedded human pancreas tissue using anti-GCLM antibody. Counter stained with hematoxylin.

#### Background References

1. Zhang J et al. Comparisons of ethanol extracts of chinese propolis (poplar type) and poplar gums based on the antioxidant activities and molecular mechanism. *Evid Based Complement Alternat Med* 2015:307594 (2015).
2. Jain SK et al. Hydrogen sulfide upregulates glutamate-cysteine ligase catalytic subunit, glutamate-cysteine ligase modifier subunit, and glutathione and inhibits interleukin-1 $\beta$  secretion in monocytes exposed to high glucose levels. *Metab Syndr Relat Disord* 12:299-302 (2014).

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