

Anti-CerS2 Antibody [PSH25-62]

HA724549



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-Fr, IHC-P, IP
Molecular Wt:	Predicted band size: 45 kDa
Clone number:	PSH25-62

Description: Ceramide synthase 2, also known as LAG1 longevity assurance homolog 2 or Tumor metastasis-suppressor gene 1 protein is an enzyme that in humans is encoded by the CERS2 gene. Ceramide synthase 2 is a ceramide synthase that catalyses the synthesis of very long acyl chain ceramides, including C20 and C26 ceramides. It is the most ubiquitously expressed of all CerS and has the broadest distribution in the human body. CerS2 was first identified in 2001. It contains the conserved TLC domain and Hox-like domain common to almost all CerS. Expression of CerS2 is transiently increased during periods of active myelination, suggesting that it is important for the synthesis of myelin sphingolipids. The lack of CerS2, as shown in knockout mice, induces the autophagy and activation of the unfolded protein response (UPR). These mice showed no decrease in overall ceramide level, but levels of sphinganine were elevated. They also developed severe liver disease, but there was no observable change in the kidneys. The CerS2 gene is compact in size and is located in a chromosomal region that is replicated early in the cell cycle. CerS2 activity is regulated by sphingosine-1-phosphate (S1P) via two sphingosine-1-phosphate receptor-like residues on CerS2 that operate independently.

Positive control: HepG2 (Human liver cancer cell) cell lysate, Huh7 (Human liver cancer cell) cell lysate, SH-SY5Y (Human neuroblastoma cell) cell lysate, Jurkat (Human T-lymphoblastic cells) cell lysate.

Subcellular location: Endoplasmic reticulum membrane.

Database links: SwissProt: Q96G23 Human | Q924Z4 Mouse
Entrez Gene: 310667 Rat

Recommended Dilutions:

WB	1:2,000
IF-Cell	1:500
IHC-Fr	1:200
IHC-P	1:2,000
IP	1-2µg/sample

Storage Buffer: 1*PBS (pH7.4), 0.1% BSA, 40% Glycerol, 0.2% Proclean 950.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). Store at -20℃ long term.

Purity: Protein A affinity purified.

Hangzhou Huaan Biotechnology Co., Ltd.

Orders: 0086-571-88062880

Technical: 0086-571-89986345

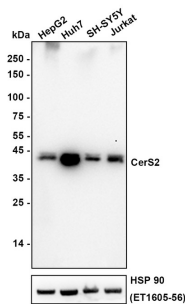
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Applications: WB=Western blot IHC-P=Immunohistochemistry (paraffin) IF-Cell=Immunofluorescence (Cell) IF-Tissue=Immunofluorescence (Tissue) FC=Flow cytometry IP=Immunoprecipitation

Images

Fig1: Western blot analysis of CerS2 on different lysates with Rabbit anti-CerS2 antibody (HA724549) at 1/2,000 dilution.



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Lane 1: HepG2 (Human liver cancer cell) cell lysate

Lane 2: Huh7 (Human liver cancer cell) cell lysate

Lane 3: SH-SY5Y (Human neuroblastoma cell) cell lysate

Lane 4: Jurkat (Human T-lymphoblastic cells) cell lysate

Lysates/proteins at 20 µg/Lane.

Exposure time: 1 minute; ECL: K1801

Blocking: 5% NFDM/TBST, 1 hour at room temperature

Primary antibody: HA724549, 1/2,000 in primary antibody dilution buffer (K1803), overnight at 4 °C

Secondary antibody: Goat anti-Rabbit IgG-HRP (HA1001), 1/50,000 in 5% NFDM/TBST, 1 hour at room temperature

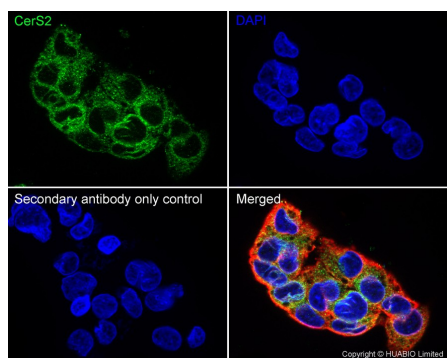
Predicted band size: 45 kDa

Observed band size: 40 kDa

Fig2: Application: Immunocytochemistry (IF-cell)

Species: Human

Sample: Hep G2 (Human hepatocellular carcinoma cell)



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Fixation: 4% Paraformaldehyde, 15 minutes at room temperature.

Permeabilization: 0.1% Triton X-100, 15 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 1 hour at room temperature.

Antibody dilution buffer: 1% BSA in PBST.

Primary antibody: HA724549, 1/500, overnight at 4°C.

Secondary antibody: Goat Anti-Rabbit IgG (iFluor™ 488, HA1121), 45 minutes at room temperature.

Counterstain: Beta tubulin (HA601187, Red), 1/100, overnight at 4°C. The nuclear counterstain was DAPI (Blue).

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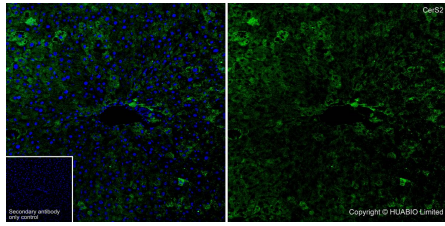


Fig3: Application: Immunofluorescence (IHC-Fr)

Species: Mouse
Tissue: Liver
Sample: Frozen section

Antigen retrieval: Not required

Wash buffer: 1× TBST
Blocking: 10% normal goat serum + 1% Triton X-100 + 0.3 M Glycine in TBST, 30 minutes at room temperature.

Primary antibody: HA724549, 1/200, overnight at 4°C.
Secondary antibody: Goat Anti-Rabbit IgG (iFluor™ 488, HA1121), 1.5 hours at room temperature.

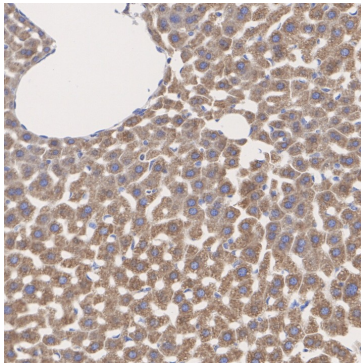


Fig4: Application: Immunohistochemistry (IHC-P)

Species: Mouse
Tissue: Liver
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA724549, 1/2,000, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

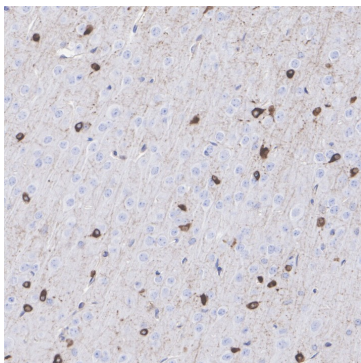


Fig5: Application: Immunohistochemistry (IHC-P)

Species: Mouse
Tissue: Brain
Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST
Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.
Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.
Primary antibody: HA724549, 1/2,000, 1 hour at room temperature.
Secondary antibody: HA1119, 20 minutes at room temperature.

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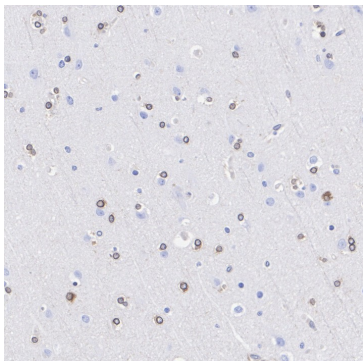


Fig6: Application: Immunohistochemistry (IHC-P)

Species: Human

Tissue: Brain

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

Primary antibody: HA724549, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1119, 20 minutes at room temperature.

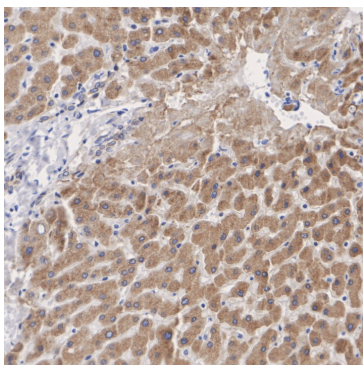


Fig7: Application: Immunohistochemistry (IHC-P)

Species: Human

Tissue: Liver

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

Primary antibody: HA724549, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1119, 20 minutes at room temperature.

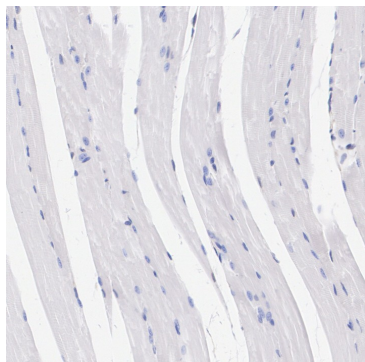


Fig8: Application: Immunohistochemistry (IHC-P)

Species: Mouse

Tissue: Skeletal muscle

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

Primary antibody: HA724549, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1119, 20 minutes at room temperature.

Skeletal muscle exhibits low expression levels of CerS2 (PMID: 18165233).

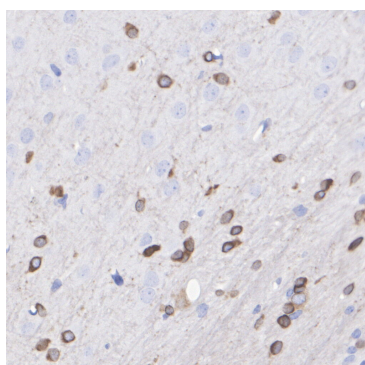


Fig9: Application: Immunohistochemistry (IHC-P)

Species: Rat

Tissue: Brain

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

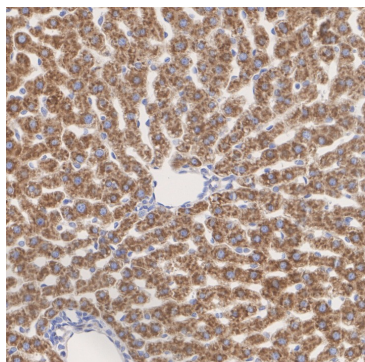
Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

Primary antibody: HA724549, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1119, 20 minutes at room temperature.

Fig10: Application: Immunohistochemistry (IHC-P)



Species: Rat

Tissue: Liver

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

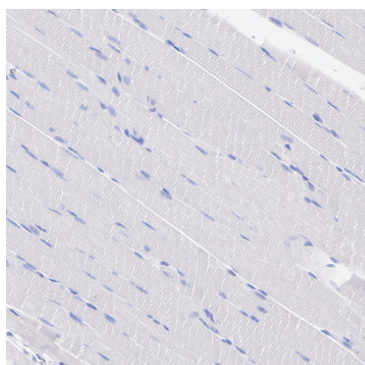
Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

Primary antibody: HA724549, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1119, 20 minutes at room temperature.

Fig11: Application: Immunohistochemistry (IHC-P)



Species: Human

Tissue: Skeletal muscle

Sample: Paraffin-embedded section

Antigen retrieval: Heat-mediated, Tris-EDTA buffer (pH 9.0), 20 minutes at 95°C.

Wash buffer: 1× TBST

Endogenous peroxidase blocking: 3% H₂O₂, 10 minutes at room temperature.

Blocking: 1% BSA + 10% normal goat serum, 10 minutes at room temperature.

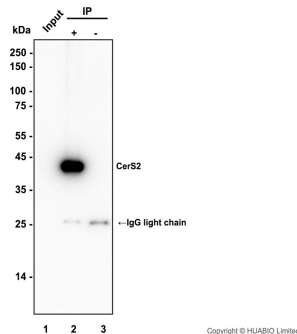
Primary antibody: HA724549, 1/2,000, 1 hour at room temperature.

Secondary antibody: HA1119, 20 minutes at room temperature.

Skeletal muscle exhibits low expression levels of CerS2 (PMID: 18165233).

Fig12: Immunoprecipitation (IP)

CerS2 was immunoprecipitated in 0.2 mg Hep G2 (Human hepatocellular carcinoma cell) cell lysate with HA724549 at 2 µg/10 µl beads. Western blot was performed from the immunoprecipitate using HA724549 at 1/2,000 dilution. Anti-Rabbit IgG for IP Nano-secondary antibody (NBI01H) at 1/5,000 dilution was used for 1 hour at room temperature.



Lane 1: Hep G2 cell lysate (input)

Lane 2: HA724549 IP in Hep G2 cell lysate

Lane 3: Rabbit IgG instead of HA724549 in Hep G2 cell lysate

Exposure time: 20 seconds

Blocking: 5% NFDM/TBST, 1 hour at room temperature

Primary dilution: HA724549, 1/2,000 in primary antibody dilution buffer (K1803), 2 hours at room temperature

Predicted band size: 45 kDa

Observed band size: 40 kDa

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Khan SR et al. Reduced circulating sphingolipids and CERS2 activity are linked to T2D risk and impaired insulin secretion. Sci Adv. 2025 Jan
2. Wang H et al. Identifying MSMO1, ELOVL6, AACS, and CERS2 related to lipid metabolism as biomarkers of Parkinson's disease. Sci Rep. 2024 Jul

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