

## Product datasheet

# Anti-CPS1 antibody ab3682

★★★★★ 9 Abreviews 16 References 6 Images

### Overview

<b>Product name</b>	Anti-CPS1 antibody
<b>Description</b>	Rabbit polyclonal to CPS1
<b>Host species</b>	Rabbit
<b>Specificity</b>	When the antibody is used at 1/2000 some lower molecular weight bands appear in COS-7 cells, the extent of which is significantly reduced when the antibody is used at 1/10,000.
<b>Tested applications</b>	<b>Suitable for:</b> IHC-Fr, IHC-P, ICC/IF, IP, WB
<b>Species reactivity</b>	<b>Reacts with:</b> Mouse, Rat
<b>Immunogen</b>	Full length native protein (purified) (Rat).
<b>Positive control</b>	Rat liver
<b>General notes</b>	OMIM reference: 114010 Alternative name: carbamoylphosphate synthetase 1, CAD

### Properties

<b>Form</b>	Liquid
<b>Storage instructions</b>	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Add glycerol to a final volume of 50% for extra stability and aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.
<b>Storage buffer</b>	Preservative: 0.02% Sodium azide
<b>Purity</b>	Whole antiserum
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	IgG

### Applications

Our [Abpromise guarantee](#) covers the use of **ab3682** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

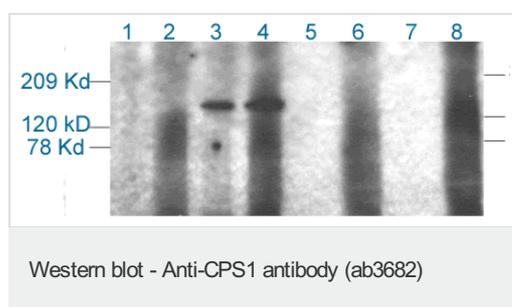
Application	Abreviews	Notes
IHC-Fr	★★★★★	1/100.

Application	Abreviews	Notes
IHC-P	★★★★★	1/500.
ICC/IF	★★★★★	Use at an assay dependent concentration.
IP		Use at an assay dependent concentration.
WB	★★★★☆	Use at an assay dependent concentration.

## Target

<b>Function</b>	Involved in the urea cycle of ureotelic animals where the enzyme plays an important role in removing excess ammonia from the cell.
<b>Tissue specificity</b>	Primarily in the liver and small intestine.
<b>Involvement in disease</b>	Defects in CPS1 are the cause of carbamoyl phosphate synthetase 1 deficiency (CPS1D) [MIM:237300]. CPS1D is an autosomal recessive disorder of the urea cycle causing hyperammonemia. Clinical features include protein intolerance, intermittent ataxia, seizures, lethargy, developmental delay and mental retardation. Note=Genetic variations in CPS1 influence the availability of precursors for nitric oxide (NO) synthesis and play a role in clinical situations where endogenous NO production is critically important, such as neonatal pulmonary hypertension, increased pulmonary artery pressure following surgical repair of congenital heart defects or hepatovenocclusive disease following bone marrow transplantation. Infants with neonatal pulmonary hypertension homozygous for Thr-1406 have lower L-arginine concentrations than neonates homozygous for Asn-1406.
<b>Sequence similarities</b>	Contains 2 ATP-grasp domains. Contains 1 glutamine amidotransferase type-1 domain.
<b>Domain</b>	The type-1 glutamine amidotransferase domain is defective.
<b>Cellular localization</b>	Mitochondrion.

## Images



Lane 1: 5 ul of 2ml lysate cos-7 cells transfected with full length CPS 1. Before IP

Lane 2: cos-7 cells transfected with full length CPS 1. IP with 5 ul of pre-immune serum

Lane 3: cos-7 cells transfected with full length CPS 1. IP with 2 ul of polyclonal antibody anti CPS 1 (ab3682)

Lane 4: cos-7 cells transfected with full length CPS 1. IP with 5 ul of polyclonal antibody anti CPS 1 (ab3682)

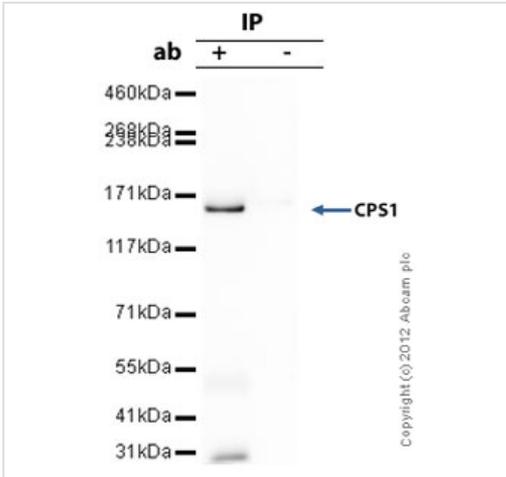
Lane 5: 5 ul of 2ml lysate cos-7 cells transfected with empty vector (pCMV5-tr). Before IP

Lane 6: cos-7 cells transfected with empty vector (pCMV5-tr). IP with 5 ul of polyclonal antibody anti CPS 1 (ab3682)

Lane 7: 5 ul of 2ml lysate untransfected cos-7 cells. Before IP  
 Lane 8: untransfected cos-7 cells. IP with 5 ul of polyclonal antibody anti CPS 1 (ab3682) Ab3682 can IP CPS1 transiently expressed in COS-7 cells.

Lane 1: 5 ul of 2ml lysate cos-7 cells transfected with full length CPS 1. Before IP

Lane 2: cos-7 cells transfected with full length CPS 1. IP



Immunoprecipitation - Anti-CPS1 antibody (ab3682)

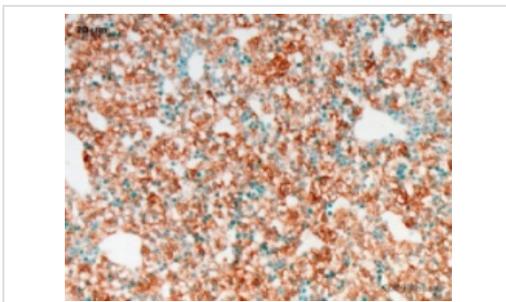
CPS1 - Liver Mitochondrial Marker was immunoprecipitated using 0.5mg Hela whole cell extract, 5µg of Rabbit polyclonal to CPS1 - Liver Mitochondrial Marker (ab3682) and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).

The antibody was incubated under agitation with Protein G beads for 10min, Hela whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.

Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70°C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab3682.

Secondary: Antibody to Rabbit IgG light chain (HRP) (ab99697).

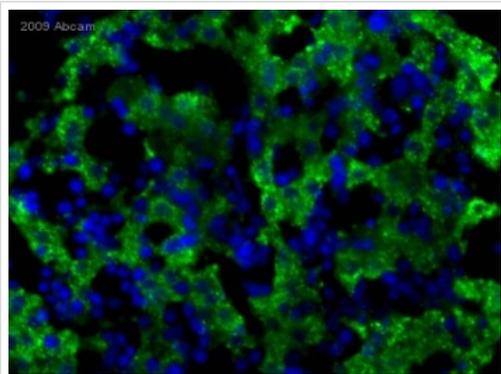
Band: 165kDa: CPS1.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-CPS1 antibody (ab3682)

This image is a courtesy of Asha Seth

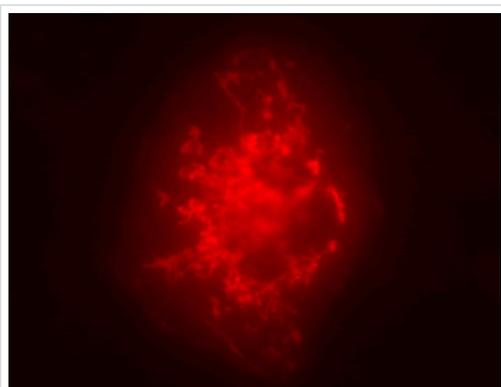
ab3682 staining CPS1 in mouse hepatic tissue section by Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections). Tissue underwent paraformaldehyde fixation before heat mediated antigen retrieval in Citrate buffer and then blocked in maleate blocking solution for 30 minutes at 22°C. The primary antibody was diluted 1/500 and incubated with sample in maleate buffer blocking solution for 16 hours at 22°C. A Biotin conjugated donkey polyclonal to rabbit IgG was used at dilution at 1/250 as secondary antibody.



Immunohistochemistry (Frozen sections) - Anti-CPS1 antibody (ab3682)

This image is a courtesy of Asha Seth

ab3682 staining CPS1 in mouse liver tissue section by Immunohistochemistry (Frozen sections). Tissue samples were fixed with paraformaldehyde and blocking with 100% maleate blocking solution at 22°C for 30 minutes was performed. The sample was incubated with primary antibody (1/100) at 22°C for 16 hours. An Alexa Fluor®488-conjugated donkey polyclonal to rabbit IgG was used undiluted as a secondary antibody. The image demonstrates CPS1 in green, nuclei stained blue with DAPI.

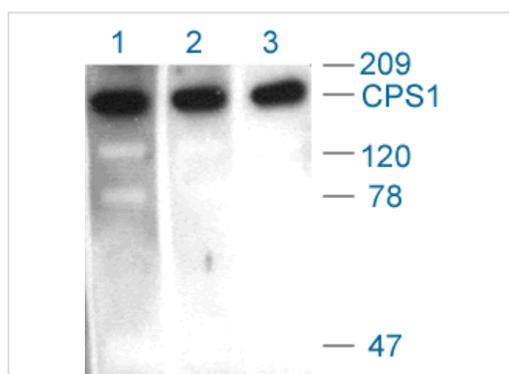


Immunocytochemistry/ Immunofluorescence - Anti-CPS1 antibody (ab3682)

CPS-1 localisation is consistent with the reticulated pattern of liver mitochondria.

Rabbit polyclonal to CPS-1 (ab3682), at 1/5000 on COS-7 cells transiently transfected with pCMV5-CPS 1 plasmid (Corvi, M.M and Berthiaume, L.G. unpublished data).

Secondary: donkey anti-rabbit (Texas Red).



Western blot - Anti-CPS1 antibody (ab3682)

Western blot using Rabbit polyclonal to CPS 1 (ab3682). All lanes loaded with 100 ng of purified CPS 1

Lane 1: ab3682 1/500

Lane 2: ab3682 1/1000

Lane 3: ab3682 1/2000 Western blot using Rabbit polyclonal to CPS 1 (ab3682).

All lanes loaded with 100 ng of purified CPS 1

Lane 1: ab3682 1/500

Lane 2: ab3682 1/1000

Lane 3: ab3682 1/2000

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