

Acetyl-CoA synthetase 1/AceCS Protein, Mouse (His)

Cat. No.:	HY-P71642
Synonyms:	Acss2; Acas2; Acecs1Acetyl-coenzyme A synthetase; cytoplasmic; EC 6.2.1.1; Acetate--CoA ligase; Acetyl-CoA synthetase; ACS; AceCS; Acetyl-CoA synthetase 1; AceCS1
Species:	Mouse
Source:	E. coli
Accession:	Q9QXG4 (M1-Q701)
Gene ID:	60525
Molecular Weight:	Approximately 82.9 kDa

PROPERTIES

AA Sequence

M G L P E E R R K S	G S G S R A R E E T	G A E G R V R G W S	P P P E V R R S A H
V P S L Q R Y R E L	H R R S V E E P R E	F W G N I A K E F Y	W K T A C P G P F L
Q Y N F D V T K G K	I F T E W M K G A T	T N I C Y N V L D R	N V H E K K L G D K
V A F Y W E G N E P	G E T T K I T Y R E	L L V Q V C Q F S N	V L R K Q G I Q K G
D R V A I Y M P M I	L E L V V A M L A C	A R L G A L H S I V	F A G F S A E S L C
E R I L D S S C C L	L I T T D A F Y R G	E K L V N L K E L A	D E S L E K C R E K
G F P V R C C I V V	K H L G R A E L G M	N D S P S Q S P P V	K R P C P D V Q I C
W N E G V D L W W H	E L M Q Q A G D E C	E P E W C D A E D P	L F I L Y T S G S T
G K P K G V V H T I	G G Y M L Y V A T T	F K Y V F D F H P E	D V F W C T A D I G
W I T G H S Y V T Y	G P L A N G A T S V	L F E G I P T Y P D	E G R L W S I V D K
Y K V T K F Y T A P	T A I R M L M K F G	D D P V T K H S R A	S L Q V L G T V G E
P I N P E A W L W Y	H R V V G S Q R C P	I V D T F W Q T E T	G G H M L T P L P G
A T P M K P G S A S	F P F F G V A P A I	L N E S G E E L E G	E A E G Y L V F K Q
P W P G I M R T V Y	G N H T R F E T T Y	F K K F P G Y Y V T	G D G C R R D Q D G
Y Y W I T G R I D D	M L N V S G H L L S	T A E V E S A L V E	H E A V A E A A V V
G H P H P V K G E C	L Y C F V T L C D G	H T F S P T L T E E	L K K Q I R E K I G
P I A T P D Y I Q N	A P G L P K T R S G	K I M R R V L R K I	A Q N D H D L G D T
S T V A D P S V I N	H L F S H R C L T T	Q	

Biological Activity	The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.
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Appearance	Lyophilized powder.
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Formulation	Lyophilized from a 0.2 µm sterile filtered 10 mM Tris-HCl, 1 mM EDTA, 6% Trehalose, pH 8.0.
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Endotoxin Level	<1 EU/µg, determined by LAL method.
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Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O.
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Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
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Shipping

Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background

Acetyl-CoA synthetase 2 (ACSS2), an enzyme that converts acetate to acetyl-CoA, imparts a competitive growth advantage under conditions of metabolic stress by enhancing the ability of cancer cells to use acetate as an additional nutritional source when other carbon sources are scarce or cannot be used to sustain lipid biomass production. The activity of ACSS2 contributes to cancer cell growth under low-oxygen and lipid-depleted conditions. The downregulation of ACSS2 expression is a metabolic hallmark of tumor progression and aggressive behavior in colorectal carcinoma^{[1][2]}.

REFERENCES

- [1]. Zachary T Schug, et al. Acetyl-CoA synthetase 2 promotes acetate utilization and maintains cancer cell growth under metabolic stress. *Cancer Cell*. 2015 Jan 12;27(1):57-71.
- [2]. Jeong Mo Bae, et al. Downregulation of acetyl-CoA synthetase 2 is a metabolic hallmark of tumor progression and aggressiveness in colorectal carcinoma. *Mod Pathol*. 2017 Feb;30(2):267-277.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA