

Recombinant Human Aminoacylase 1, His-tagged

Cat. No. ACY1-781H **Lot. No.** (See product label)

SPECIFICATION

Product Overview Recombinant human ACY1 protein, fused to His-tag at N-terminus, was expressed in *E.coli* and purified by using conventional chromatography techniques. MW =48.0kDa (428aa) confirmed by MALDI-TOF.

Species Human

Source E.coli

Description Aminoacylase-1 is a cytosolic, homodimeric, zinc-binding enzyme that catalyzes the hydrolysis of acylated L-amino acids to L-amino acids and acyl group, and has been postulated to function in the catabolism and salvage of acylated amino acids. Defects in ACY1 are the cause of aminoacylase-1 deficiency (ACY1D). ACY1D results in a metabolic disorder manifesting with encephalopathy, unspecific psychomotor delay, psychomotor delay with atrophy of the vermis and syringomyelia, marked muscular hypotonia or normal clinical features. Epileptic seizures are a frequent feature. All affected individuals exhibit markedly increased urinary excretion of several N-acetylated amino acids.

Sequences Of Amino Acids

MGSSHHHHH SGLVPRGSH MTSKGPEEEH PSVTLFRQYL RIRTVQPKPD
 YGAAVAFFEE TARQLGLGCQ KVEVAPGYVV TVLTWPGTNP TLSSILLNSH
 TDVVPVFKEH WSHDPFEAFK DSEGYYIYARG AQDMKCVSIQ YLEAVRRLKV
 EGHRFPRTIH MTFVPDEEVG GHQGMELFVQ RPEFHALRAG FALDEGIANP
 TDAFTVFYSE RSPWWVRVTS TGRPGHASRF MEDTAAEKLH KVVNSILAFR
 EKEWQRLQSN PHLKEGSVTS VNLTKLEGGV AYNVIPATMS ASFDFRVAPD

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VDFKAFEEQL QSWCQAAGEG VTLEFAQKWM HPQVTPDDDS NPWWAAFSRV
 CKDMNLTLEP EIMPAATDNR YIRAVGVPAL GFSPMNRTPV LLHDHDERLH
 EAVFLRGVDI YTRLLPALAS VPALPSDS

Purity > 90% by SDS – PAGE.

Form Liquid. 20mM Tris-HCl buffer (pH8.0) containing 10% glycerol, 1mM DTT.

Concentration 0.5 mg/ml (determined by Bradford assay).

Storage Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

GENE INFORMATION

Gene Name [ACY1 aminoacylase 1 \[Homo sapiens \]](#)

Synonyms ACY1; aminoacylase 1; ACY1D; ACYLASE; aminoacylase-1; N-acyl-L-amino-acid amidohydrolase; ACY-1; EC 3.5.1.14

Gene ID [95](#)

mRNA Refseq [NM_000666](#)

Protein Refseq [NP_000657](#)

MIM [104620](#)

UniProt ID [Q03154](#)

Chromosome 3p21.1

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Location**Pathway**

Arginine and proline metabolism; Biosynthesis of alkaloids derived from ornithine, lysine and nicotinic acid; Metabolic pathways


Function

aminoacylase activity; hydrolase activity; metal ion binding; metal ion binding; metallopeptidase activity; protein dimerization activity; zinc ion binding

PDB rendering based on 1q7l.

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