

## Recombinant Mouse ACY1/Aminoacylase-1 Protein (His Tag)

Catalog No. PKSM040921

**Note:** Centrifuge before opening to ensure complete recovery of vial contents.

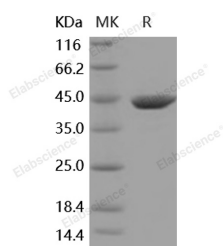
### Description

|                                    |   |
|------------------------------------|---|
| <b>Synonyms</b>                    | 1110014J22Rik;Acy-1   |
| <b>Species</b>                     | Mouse   |
| <b>Expression Host</b>             | HEK293 Cells  |
| <b>Sequence</b>                    | Met 1-Ser 408   |
| <b>Accession</b>                   | Q99JW2  |
| <b>Calculated Molecular Weight</b> | 45 kDa  |
| <b>Observed molecular weight</b>   | 45 kDa  |
| <b>Tag</b>                         | C-His   |
| <b>Bioactivity</b>                 | Measured by its ability to cleave N-acetyl-L-Methione (Ac-Met). The specific activity is > 4,000 pmoles/min/μg. |

### Properties

|                       |   |
|-----------------------|---|
| <b>Purity</b>         | > 95 % as determined by reducing SDS-PAGE.  |
| <b>Endotoxin</b>      | < 1.0 EU per μg of the protein as determined by the LAL method.   |
| <b>Storage</b>        | Generally, lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months. |
| <b>Shipping</b>       | This product is provided as lyophilized powder which is shipped with ice packs.   |
| <b>Formulation</b>    | Lyophilized from sterile PBS, pH 7.4<br>Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization.<br>Please refer to the specific buffer information in the printed manual.            |
| <b>Reconstitution</b> | Please refer to the printed manual for detailed information.  |

### Data



> 95 % as determined by reducing SDS-PAGE.

### Background

Aminoacylase 1 (ACY1), a metalloenzyme that removes amide-linked ACY1 groups from amino acids and may play a

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role in regulating responses to oxidative stress. Both the C-terminal fragment found in the two-hybrid screen and full-length ACY1 co-immunoprecipitate with SphK1. Though both C-terminal and full-length proteins slightly reduce SphK1 activity measured in vitro, the C-terminal fragment inhibits while full-length ACY1 potentiates the effects of SphK1 on proliferation and apoptosis. It suggested that ACY1 physically interacts with SphK1 and may influence its physiological functions. As a homodimeric zinc-binding enzyme, Aminoacylase 1 catalyzes the hydrolysis of N alpha-acylated amino acids. Deficiency of Aminoacylase 1 due to mutations in the Aminoacylase 1 (ACY1) gene follows an autosomal-recessive trait of inheritance and is characterized by accumulation of N-acetyl amino acids in the urine.