Active Aspartate Aminotransferase (AST)

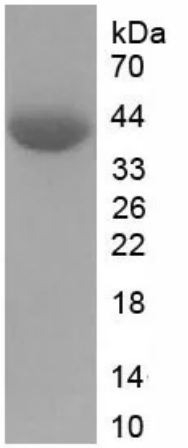
Catalog#:PEM12626

概述（Summary）

别称（Alternative Names）	cCAT; AAT; ASAT; SGOT; GOT1; Cysteine transaminase, cytoplasmic; Transaminase A; Aspartate Transaminase 1,Cytoplasmic; Glutamic-Oxaloacetic Transaminase 1,Soluble
纯度（Purity）	Greater than 97% as determined by reducing SDS-PAGE.
内毒素（Endotoxin level）	Please contact with the lab for this information
蛋白构建（Construction）	【Met1-Gln413】
Accession #	P05201
表达宿主（Host）	E.coli
种属（Species）	Mus musculus (Mouse)
预测分子量（Predicted MW）	47.5 kDa
制剂（Form）	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, containing 0.01% SKL, 1mM DTT, 5% Trehalose and Proclin300.
运输方式（Shipping）	The product is shipped with ice bag. Upon receipt, store it immediately at the temperature listed below.
稳定性&储存（Stability &Storage）	12 months at -20°C to -80°C in lyophilized state.6 months at -20°C to -80°C under sterile conditions after reconstitution.7-10 days at 2°C to 8°C under sterile conditions after reconstitution.Please minimize freeze-thaw cycles.
复溶（Reconstitution）	Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.
背景介绍（References）	Biosynthesis of L-glutamate from L-aspartate or L-cysteine. Important regulator of levels of glutamate, the major excitatory neurotransmitter of the vertebrate central nervous system. Acts as a scavenger of glutamate in brain neuroprotection. The aspartate aminotransferase activity is involved in hepatic glucose synthesis during development and in adipocyte glyceroneogenesis. Using L-cysteine as substrate, regulates levels of mercaptopyruvate, an important source of hydrogen sulfide. Mercaptopyruvate is converted into H(2)S via the

action of 3-mercaptopyruvate sulfurtransferase (3MST). Hydrogen sulfide is an important synaptic modulator and neuroprotectant in the brain.

电泳图（SDS-PAGE image）



Greater than 97% as determined by reducing SDS-PAGE.

活性图（Bioactivity image）

Calculation

$$\text{AST specific activity} = \frac{OD \times d}{t} / \text{amount of protein}$$

Where:

d - dilution factor

t - reaction time in minutes

The specific activity of recombinant rat AST is 6.3U/mg.

Aspartate transaminase(AST) or aspartate aminotransferase, also known as AspAT/ASAT/AAT or glutamic oxaloacetic transaminase, is a pyridoxal phosphate-dependent transaminase enzyme AST catalyzes the reversible transfer of an α-amino group between aspartate and glutamate and, as such, is an important enzyme in amino acid metabolism. AST is found in the liver, heart, skeletal muscle, kidneys, brain, and red blood cells. In this test, an amino group is transferred of from aspartate to α-ketoglutarate. The products of this reversible transamination reaction are oxaloacetate and glutamate. The oxaloacetic acid can be decomposed into pyruvate and carbon dioxide with the present of phenylamine citrate. The activity of aspartate transaminase can be measured by calculating the concentration of the pyruvate. The reaction was performed in adding 10μl different concentation recombinant AST(the blank tube add 10μl phosphate buffer) to 50μl mixture substrate contianing 2mM 2-Ketoglutaric acid, 0.1M L-aspartic acid, in 0.2M phosphate buffer,pH7.4, incubate at 37 ℃ for 1h, then add 10μl phenylamine citrate and 50μl 2,4-dinitrophenylhydrazine continue incubate at 37 ℃ for 20min, stop the action by adding 500μl 0.4M NaOH, read the OD value at 520nm. Standard curve prepare by double dilute 2μM pyruvate with phosphate bufferr then add 10μl phenylamine citrate and 50μl 2,4-dinitrophenylhydrazine, incubate at 37 ℃ for 20min and record the OD value at 520nm. One unit of AST is the amount of enzyme that will generate 1μmole of pyruvate per minute at pH7.4 at 37 ℃.

注意事项（Note）

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