

SCLY Protein, Human, Recombinant (His)

General Information

Synonyms:	selenocysteine lyase;hSCL;SCL
Protein Construction:	A DNA sequence encoding the human SCLY (AAH07891.1) (Met1-Ala445) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Met 1
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	AAH07891.1
Molecular Weight:	49.63 kDa (predicted); 46 kDa (reducing condition, due to glycosylation)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 500 mM NaCl, 10% glycerol, pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:
It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

SCLY, also known as selenocysteine lyase, belongs to the class-V pyridoxal-phosphate-dependent aminotransferase family. It is a novel enzyme that exclusively decomposes L-selenocysteine into L-alanine and H₂Se in various mammalian tissues. SCLY contains pyridoxal 5'-phosphate and weighs approximately 85,000. SCLY participates in selenoamino acid metabolism. It employs one cofactor, pyridoxal phosphate. Its maximum reactivity is at about pH 9.0. It was shown that 1 mol of selenocysteine is converted to equimolar amounts of

alanine and H₂Se. The following amino acids are insert: L-cysteine, L-serine, L-cysteine sulfinate, selenocysteamine, Se-ethyl-DL-selenocysteine, and L-selenohomocysteine. L-Cysteine (K_i, 1.0 mM) competes with L-selenocysteine (K_m, 0.83mM) to inhibit the enzyme reaction.

Reference

Johansson AL. et al., 2012, PLoS One. 7 (1): e30528.

Collins R. et al., 2012, PLoS One. 7 (1): e30581.

N Esaki. et al., 1982, The Journal of Biological Chemistry. 257: 4386-91.

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