Data Sheet (Cat.No.TMPY-00877)

TargetMol

Leukotriene A4 Hydrolase Protein, Human, Recombinant (His)

General Information

Synonyms: LAT4;leukotriene A4 hydrolase

Protein Construction: A DNA sequence encoding the human LTA4H (NP_000886.1) (Met1-Asp611) was expressed with a C-terminal polyhistidine tag. Predicted N terminal: Met

Species: Human

Expression Host: Baculovirus Insect Cells

Accession: P09960

Molecular Weight: 70.7 kDa (predicted); 58-68 kDa (reducing conditions)

QC Testing

Biological Activity: Measured by its ability to cleave the fluorogenic peptide substrate, Arg-7-amido-4-methylcoumarin(R-AMC). The specific activity is > 15 pmoles/min/μg.

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 PBS, pH 7.4. 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

Leukotriene A-4 hydrolase, also known as LTA-4 hydrolase, Leukotriene A (4) hydrolase, LTA4H, and LTA4, is a cytoplasm protein that belongs to the peptidase M1 family. LTA4H hydrolyzes an epoxide moiety of leukotriene A4 (LTA-4) to form leukotriene B4 (LTB-4). This enzyme also has some peptidase activity. The leukotrienes (LTs) are a class of structurally related lipid mediators involved in the development and maintenance of inflammatory and allergic reactions. In the biosynthesis of LTs, arachidonic acid was converted into the unstable intermediate

epoxide LTA4, which may, in turn, be conjugated with glutathione to form the spasmogenic LTC4, or hydrolyzed into the pro-inflammatory lipid mediator LTB4 in a reaction catalyzed by Leukotriene A4 hydrolase (LTA4H). LTB4 is a classical chemoattractant of human neutrophils and triggers adherence and aggregation of leukocytes to vascular endothelium, and also modulates immune responses. As a bifunctional zinc metalloenzyme, LTA4H also exhibits an anion-dependant arginyl aminopeptidase activity of high efficiency and specificity in addition to its epoxide hydrolase activity. LTA4H is regarded as a therapeutic target for inflammation.

Reference

Mancini, JA. et al.,1995, Eur. J. Biochem. 231: 65-71.
Orning, L. et al., 1994, J. Biol. Chem. 269: 11269-73.
Rudberg, PC. et al., 2004, J. Biol. Chem. 279: 27376-82.
Qiu, H. et al., 2006, Proc. Natl. Acad. Sci. USA. 103: 8161-6.