Datasheet for ABIN2666493

Liver Arginase Protein (AA 1-322, N-Term)

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Overview

Quantity:	10 µg
Target:	Liver Arginase (ARG1)
Protein Characteristics:	AA 1-322, N-Term
Origin:	Human
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Biological Activity:	Active
Application:	Intracellular Flow Cytometry (ICFC)

Product Details

Purity:	> 92 % , as determined by Coomassie stained SDS-PAGE.
Sterility:	0.22 µm filtered
Endotoxin Level:	Less than 0.01 ng per µg cytokine as determined by the LAL method.

Target Details

Target:	Liver Arginase (ARG1)
Alternative Name:	Arginase I (ARG1 Products)
Background:	Arginase is a divalent cation-dependent enzyme that converts L-arginine into nonprotein amino acid L-ornithine and urea, it is the final enzyme of the urea cycle. Arginase is a trimeric metalloenzyme and Mn2+ is the physiologic activator. Mammals have two arginase isozymes, arginase I and arginase II, which are encoded by different genes. Arginase I, also called liver

Target Details

	arginase, is highly expressed in the cytosol of hepatocytes and is involved in ammonia detoxification in the liver. Arginase II is localized in the mitochondria in extrahepatic tissues, such as kidney, brain, prostate, small intestine, lactating mammary gland, and skeletal muscle, and provides L-ornithine for proline and polyamine biosynthesis. Since L-arginine is also the substrate for nitric oxide (NO) synthase (NOS), it has been shown that both arginase isozymes can reciprocally regulate NOS activity by modulating L-arginine availability. Therefore, arginase I and II modulate many biological functions through regulating NO production. The role of arginase I in the immune response, including anti-parasite and anti-viral responses, has been studied. The induction of mouse (but not human) arginase I in macrophages by exogenous stimuli, including Th2 cytokines IL-4, IL-10, and IL-13, is well known. A study has shown that alternative activated monocytes/macrophages from humans affected by filariasis can express arginase I. Arginase I is constitutively expressed in human granulocytes and is localized to the azurophil granules, and is involved in antimicrobial activity. The role of arginase I in tumor biology has also been studied, in this sense, arginase I may promote growth of some types of tumors via polyamine synthesis or downregulation of NO-mediated tumor cytotoxicity. In contrast, arginase I can also promote death of some types of tumors by L-arginine depletion. The involvement of arginase I in axonal regeneration in the central nervous system after injury has also been reported.
Molecular Weight:	The 329 amino acid recombinant protein has a predicted molecular mass of approximately 36 kDa. The DTT-reduced and non-reduced protein migrates at approximately 40 kDa by SDS-PAGE. The predicted N-terminal amino acid is Met.
Pathways:	Cellular Response to Molecule of Bacterial Origin

Application Details

Application Notes:	Optimal working dilution should be determined by the investigator.
Comment:	Biological activity: The activity of arginase I is determined by the production of urea from the hydrolysis of L-arginine. The specific activity is >100,000 pmol/min/µg.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Reconstitution:	For maximum results, quick spin vial prior to opening.
Buffer:	0.22 µm filtered protein solution is in 20 mM Tris, pH 8.0, 100 mM NaCl, 10 mM DTT, 10 %

Handling

	glycerol.
Preservative:	Dithiothreitol (DTT)
Precaution of Use:	This product contains Dithiothreitol (DTT): a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Handling Advice:	Avoid repeated freeze/thaw cycles.
Storage:	-20 °C
Storage Comment:	Unopened vial can be stored at -70°C for six months.

