

Recombinant Rat ARG1 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52252

Size: 10ug, 100ug

Protein Name: Arginase-1 (EC 3.5.3.1) (Liver-type arginase) (Type I arginase)

Synonym: Arg1

UniProt ID: P07824

UniProt Link: www.uniprot.org/uniprotkb/P07824/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 323 AA

Molecular Weight: 35 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MSSKPKPIEIIIGAPFSKGQPRGGVEKGPAALRKAGLVEKLKETEYNVRDHGDLAFVDVPNDSPFQIV
KNPRSVGKANEQLAAVVAETQKNGTISVVLGGDHSMAGSISGHARVHPDLCVIWVDAHTDINTPLTT
SSGNLHGQPVAFLKELKGKFPDVPGFSSWVTPCISAKDIVYIGLRDVPGEHYIIKTLGIKYFSMTEVD
KLGIGKVMEETFSYLLGRKKRPIHLSFDVDGLDPVFTPATGTPVVGGLSYREGLYITEEIYKTGLLSGL
DIMEVNPTLGKTPEEVTRTVNTAVALTLSCFGTKREGNHKPETDYLKPPK

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Arginase-1 (EC 3.5.3.1) (Liver-type arginase) (Type I arginase) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Catalyzes the final step of the urea cycle by hydrolyzing L-arginine into urea, a nitrogenous waste product, and L-ornithine, a precursor to proline and polyamines; the urea cycle occurs primarily in the liver and, to a lesser extent, in the kidneys.; Functions in L-arginine homeostasis in nonhepatic tissues characterized by the competition between nitric oxide synthase (NOS) and arginase for the available intracellular substrate arginine. Arginine metabolism is a critical regulator of innate and adaptive immune responses. Involved in an antimicrobial effector pathway in polymorphonuclear granulocytes (PMN). Upon PMN cell death is liberated from the phagolysosome and depletes arginine in the microenvironment leading to suppressed T cell and natural killer (NK) cell proliferation and cytokine secretion (By similarity). In group 2 innate lymphoid cells (ILC2s) promotes acute type 2 inflammation in the lung and is involved in optimal ILC2 proliferation but not survival. Plays a role in the immune response of alternatively activated or M2 macrophages in processes such as wound healing and tissue regeneration, immune defense against multicellular pathogens and parasites, and immune suppression and allergic inflammation; the regulatory outcome seems to be organ specific. In tumor-infiltrating dendritic cells (DCs) and myeloid-derived suppressor cells (MDSCs) plays a role in suppression of T cell-mediated antitumor immunity.

Subcellular Localization: Cytoplasm, cytosol . Cytoplasmic granule . Note=Localized in azurophil granules of neutrophils.

6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.