

DESCRIPTION

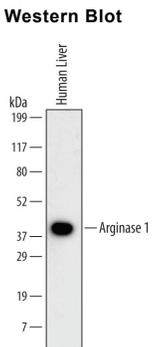
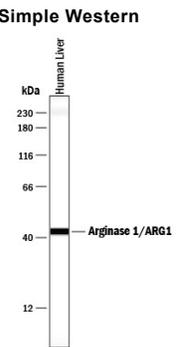
Species Reactivity	Human
Specificity	Detects human Arginase 1/ARG1 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG _{2B} Clone # 658934
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human Arginase 1/ARG1 Met1-Lys322 Accession # P05089
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	See Below
Immunoprecipitation	25 µg/mL	Cell lysates spiked with Recombinant Human Arginase 1/ARG1 (Catalog # 5868-AR), see our available Western blot detection antibodies
Simple Western	20 µg/mL	See Below

DATA

Western Blot	Simple Western
 <p>Detection of Human Arginase 1/ARG1 by Western Blot. Western blot shows lysates of human liver tissue. PVDF Membrane was probed with 1 µg/mL of Human Arginase 1/ARG1 Monoclonal Antibody (Catalog # MAB5868) followed by HRP-conjugated Anti-Mouse IgG Secondary Antibody (Catalog # HAF007). A specific band was detected for Arginase 1/ARG1 at approximately 40 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.</p>	 <p>Detection of Human Arginase 1/ARG1 by Simple Western™. Simple Western lane view shows lysates of human liver tissue, loaded at 0.2 mg/mL. A specific band was detected for Arginase 1/ARG1 at approximately 42 kDa (as indicated) using 20 µg/mL of Mouse Anti-Human Arginase 1/ARG1 Monoclonal Antibody (Catalog # MAB5868). This experiment was conducted under reducing conditions and using the 12-230 kDa separation system.</p> <p>*Non-specific interaction with the 230kDa Simple Western standard may be seen with this antibody.</p>

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Arginase 1 (ARG1) is a 35-40 kDa member of the arginase family of enzymes. It is expressed in multiple cell types, including erythrocytes, hepatocytes, neutrophils, smooth muscle and macrophages. ARG1 demonstrates two distinct functions: in the hepatocyte cytoplasm, it catalyzes the conversion of arginine to ornithine and urea, while in multiple cells, it degrades arginine, thus indirectly downregulating NO synthase (NOS) activity by depriving this enzyme of its substrate. Human ARG1 is 322 amino acids (aa) in length. Its enzyme region comprises aa 9-309 and contains two Mn atoms. ARG1 is moderately active as a monomer, but highly active as a 105 kDa homotrimer. Trimerization is promoted by nitrosylation of Cys303, creating a regulatory feedback loop with NOS. There are two isoform variants, one that shows an eight aa insertion after Gln43, and another that shows a deletion of aa 204-289. Full-length human ARG1 shares 87% aa identity with mouse and rat ARG1.