PRODUCT INFORMATION

ARG1 (human, recombinant)

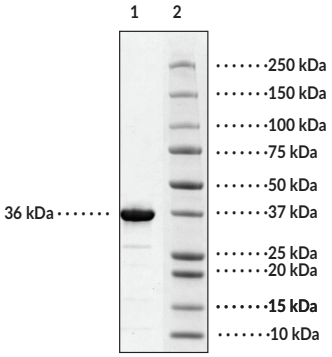
Item No. 32558

Overview and Properties

Synonyms:	Arginase1, Liver-type Arginase, Type I Arginase
Source:	Active recombinant human C-terminal His-tagged ARG1 expressed in HEK293 cells
Amino Acids:	1-322 (full length)
Uniprot No.:	P05089
Molecular Weight:	36 kDa
Storage:	-80°C (as supplied)
Stability:	≥6 months
Purity:	***batch specific*** (≥90% estimated by SDS-PAGE)
Supplied in:	8 mM Phosphate buffer, pH 7.4, with 110 mM sodium chloride, 2.2 mM potassium chloride, and 20% glycerol
Protein Concentration:	***batch specific*** mg/ml

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

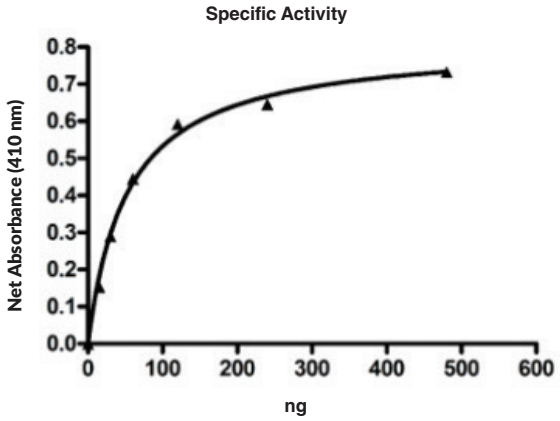
Images



Lane 1: ARG1 (4 µg)
Lane 2: MW Markers

SDS-PAGE Analysis of ARG1.

Representative gel image shown; actual purity may var between each batch.



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Description

Arginase-1 (ARG1) is a manganese-metalloenzyme that catalyzes the irreversible hydrolysis of L-arginine into urea and L-ornithine with roles in polyamine synthesis and tissue repair.[1-3] It functions as a homotrimer with each subunit containing a binuclear manganese cluster at its active site.[2] ARG1 is expressed primarily in the liver, and at lower levels in various extrahepatic tissues, including the heart, lung, intestine, and stomach, as well as the CNS, blood vessels, and M2 macrophages.[1] Loss-of-function mutations in *ARG1* are associated with the autosomal recessive disorder arginase-1 deficiency that is characterized by neurological impairment, growth retardation, spastic paraparesis, and hyperargininemia.[2] *ARG1* expression is increased in lung homogenates isolated from patients with asthma.[4] Cayman's ARG1 (human, recombinant) protein can be used for enzyme assay applications.

References

1. Moretto, J., Girard, C., and Demougeot, C. The role of arginase in aging: A systematic review. *Exp. Gerontol.* **116**, 54-73 (2019).
2. Sin, Y.Y., Baron, G., Schulze, A., *et al.* Arginase-1 deficiency. *J. Mol. Med. (Berl.)* **93(12)**, 1287-1296 (2015).
3. Greenhalgh, A.D., Passos Dos Santos, R., Zarruk, J.G., *et al.* Arginase-1 is expressed exclusively by infiltrating myeloid cells in CNS injury and disease. *Brain Behav. Immun.* **56**, 61-67 (2016).
4. North, M.L., Khanna, N., Marsden, P.A., *et al.* Functionally important role for arginase 1 in the airway hyperresponsiveness of asthma. *Am. J. Physiol. Lung Cell Mol. Physiol.* **296(6)**, L911-L920 (2009).

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