PRODUCT INFORMATION

AIMP1 (human, recombinant)

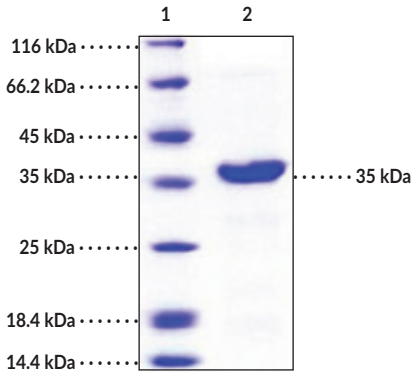
Item No. 32058

Overview and Properties

Synonyms:	Aminoacyl tRNA Synthase Complex-interacting Multifunctional Protein 1, EMAP-2, Endothelial Monocyte-activating Polypeptide 2, Multisynthase Complex Auxiliary Component p43, SCYE1, Small Inducible Cytokine Subfamily E Member 1
Source:	Recombinant human N-terminal His-tagged AIMP1 expressed in *E. coli*
Amino Acids:	2-312 (full length)
Uniprot No.:	Q12904
Molecular Weight:	35 kDa
Storage:	-80°C (as supplied)
Stability:	≥1 year
Purity:	≥95% estimated by SDS-PAGE
Supplied in:	Lyophilized from sterile PBS, pH 7.4

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

Image



Lane 1: MW Markers
Lane 2: AIMP1

SDS-PAGE Analysis of AIMP1.

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Description

Aminoacyl tRNA synthase complex-interacting multifunctional protein 1 (AIMP1), also known as p43, is a component of the multi-aminoacyl-tRNA synthetase complex and also functions as a cytokine.[1] Intracellular AIMP1 interacts with and stabilizes arginyl-tRNA synthetase, as well as negatively regulates TGF-β signaling by binding to and stabilizing Smurf2.[2] AIMP1 can also be secreted from cells in response to stimuli including hypoxia, heat shock, and TNF-α, and secreted AIMP1 has a variety of roles in the regulation of angiogenesis, fibroblast proliferation, and glucose homeostasis.[1,3,4] It also has pro-inflammatory activity and activates monocytes/macrophages, leading to the secretion of TNF-α, IL-8, and chemokine (C-C motif) ligand 2 (CCL2).[4] Peripheral blood and synovial fluid levels of AIMP1 are elevated in patients with rheumatoid arthritis compared with peripheral blood isolated from healthy patients, and administration of the chimeric AIMP1 neutralizing antibody atliximab attenuates disease severity in a mouse model of collagen-induced arthritis.[4] Intravenous administration of recombinant AIMP1 reduces tumor growth in an MKN45 stomach cancer mouse xenograft model.[3] Cayman's AIMP1 (human, recombinant) protein consists of 318 amino acids and has a calculated molecular weight of 35 kDa.

References

1. Park, S.G., Kang, Y.S., Kim, J.Y., *et al.* Hormonal activity of AIMP1/p43 for glucose homeostasis. *Proc. Natl. Acad. Sci. USA* **103(40)**, 14913-14918 (2006).
2. Lee, Y.S., Han, J.M., Son, S.H., *et al.* AIMP1/p43 downregulates TGF-β signaling via stabilization of smurf2. *Biochem. Biophys. Res. Commun.* **371(3)**, 395-400 (2008).
3. Han, J.M., Myung, H., and Kim, S. Antitumor activity and pharmacokinetic properties of ARS-interacting multi-functional protein 1 (AIMP1/p43). *Cancer Lett.* **287(2)**, 157-164 (2010).
4. Hong, S.H., Cho, J.G., Yoon, K.J., *et al.* The antibody atliximab attenuates collagen-induced arthritis by neutralizing AIMP1, an inflammatory cytokine that enhances osteoclastogenesis. *Biomaterials* **44**, 45-54 (2015).

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