

AIM2 Protein, Human, Recombinant (GST)

General Information

Synonyms:	absent in melanoma 2;PYHIN4
Protein Construction:	A DNA sequence encoding the human AIM2 (NP_004824.1) (Met 1-Thr 343) was fused with the GST tag at the N-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	Baculovirus Insect Cells
Accession:	NP_004824.1
Molecular Weight:	65.2 kDa (predicted); 65.2 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 90 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/µg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 µm filter, containing 50 mM Tris, 1M NaCl, 0.5 mM PMSF, 5 mM GSH, pH 8.0. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:	Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.
Stability & Storage:	It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots. <small>Actual storage temperature shall be subject to the COA.</small>
Shipping:	In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

AIM2, Absent In Melanoma 2 is a member of the interferon-inducible HIN-200 protein family that contains an amino-terminal pyrin domain and a carboxy-terminal oligonucleotide/oligosaccharide-binding domain, senses cytoplasmic DNA by means of its oligonucleotide/oligosaccharide-binding domain and interacts with ASC (apoptosis-associated speck-like protein containing a CARD) through its pyrin domain to activate caspase-1. In response to foreign cytoplasmic DNA, AIM2 forms an inflammasome, resulting in caspase activation in

inflammatory cells. It had been pointed to a role of AIM2 function in both inflammation and cancer. AIM-2 antigen is expressed in a wide variety of tumor types, including neuroectodermal tumors, as well as breast, ovarian and colon carcinomas. AIM-2 could be used as a tumor antigen target for monitoring vaccine trials or to develop antigen specific active immunotherapy for glioma patients.

Reference

Patsos G, et al. (2010) Restoration of absent in melanoma 2 (AIM2) induces G2/M cell cycle arrest and promotes invasion of colorectal cancer cells. *Int J Cancer*. 126(8): 1838-49.

Fernandes-Alnemri T, et al. (2009) AIM2 activates the inflammasome and cell death in response to cytoplasmic DNA. *Nature*. 458(7237): 509-13.

Chen IF, et al. (2006) AIM2 suppresses human breast cancer cell proliferation in vitro and mammary tumor growth in a mouse model. *Mol Cancer Ther*. 5(1): 1-7.

Liu G, et al. (2004) AIM-2: a novel tumor antigen is expressed and presented by human glioma cells. *J Immunother*. 27(3): 220-6.

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