Recombinant AIM2 protein (His tag)

Catalog Number	539432
Synonyms	Absent in melanoma 2
Species	Human
Expression System	E. coli
Accession	O14862
Molecular Weight	Predictes a molecular mass of 12.50 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 13 kDa band.

Product Information

Sequence Region	1-93
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-93 aa (O14862) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant Human AIM2 (1-93) Fragment: A high-purity, functional protein fragment encompassing the Pyrin domain (residues 1-87) of Interferon-inducible protein AIM2. This product is an essential tool for studying the molecular mechanisms of inflammasome assembly, cytosolic DNA sensing, and innate immune responses in a controlled, domain-specific context. The full-length Interferon-inducible protein AIM2 (Absent in melanoma 2) is a critical sensor component of the AIM2 inflammasome, which activates in response to cytosolic double-stranded DNA (dsDNA) from viral, bacterial, or host sources. It functions as a pattern recognition receptor (PRR) that binds dsDNA non-specifically, leading to inflammasome complex formation with CASP1 and PYCARD/ASC. This triggers caspase-1 activation, resulting in pyroptosis and the cleavage of inflammatory cytokines IL-1β and IL-18. Beyond its role in immunity, AIM2 acts as a tumor suppressor by inhibiting AKT1 phosphorylation and cell proliferation, and it regulates DNA damage responses, including in neurodevelopment and intestinal epithelial cells. AIM2 localizes primarily to the cytoplasm and forms inflammasome aggregates, but it can also translocate to the nucleus upon DNA damage. The provided fragment (1-93) contains the Pyrin domain, which is pivotal for these functional interactions, enabling focused research on domain-specific activities.