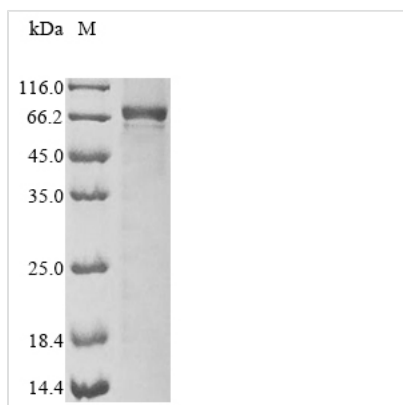




Recombinant Mouse Interleukin-1 receptor-associated kinase 3 (Irak3)

Product Code	CSB-BP011811MO
Abbreviation	Recombinant Mouse Irak3 protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q8K4B2
Product Type	Recombinant Proteins
Immunogen Species	Mus musculus (Mouse)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	MAGRCGARGALSPQLLLFDLPPALLGELCGILDSCDGPLGWRGLAERLSNSW LDVRHIEKYVNQGKSGTRELLWSWAQKNKTIGDLLEVLDQDMGHQRAIHLIINYG VSWTPSVQTHHELPFSPFPPEVKHACRENDPGPLEPANVTVDNLVPEHNEK GTLQKTPISFQSILEGTKHFHKDFLIGEGEIFEVYRVDIRNQAYAVKLFKQEKKM QLKKHWKRFLSELEVLLLFRHPHILELAAYFTETEKLCLVYPYMSNGTLFDRLQ CTNGTTPLSWHVRI SVLIGIAKAIQYLHNTQPCAVICGNVSSANILLDDQLQPKL TDFAAAHFRPNLEQQSSTINMTGGGRKHLWYMPEEYIRQGRLSVKTDVYSFGI VIMEVLTGCKVVLDDPKHVQLRDLLMELMEKRGDLSCLSFDRKIPPCPRNFS AKLFSLAGRCVATKAKLRPTMDEVLSSESTQPSLYFAEDPPTSLKSFRCPSP FLDNVPSIPVEDDENQNNHSPVPKEVLGTDRTVQKTPFECSQSEVTFLGLDRN RGNRGSEADCNPSSSHEECWSPELVAPSQDLSPVTVISLGSSWEVPGHSYG SKPMEKRCSSGLFCSEHEQSKKQ
Research Area	Immunology
Source	Baculovirus
Target Names	Irak3
Protein Names	Recommended name: Interleukin-1 receptor-associated kinase 3 Short name= IRAK-3 EC= 2.7.11.1 Alternative name(s): IL-1 receptor-associated kinase M Short name= IRAK-M
Expression Region	1-609aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 10xHis-tagged and C-terminal Myc-tagged
Mol. Weight	72.3
Protein Length	Full Length
Image	



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

The gene responsible for the mouse interleukin-1 receptor-associated kinase 3 (Irak3) protein (1-609aa) is co-incorporated into a plasmid vector with the N-terminal 10xHis-tag gene and the C-terminal Myc-tag gene, forming a recombinant plasmid. The resulting recombinant plasmid is introduced into baculovirus cells, from which cells survive in the presence of a specific antibiotic are selected. The selected baculovirus cells containing the recombinant plasmid are cultured under conditions that facilitate the expression of the target gene. After expression, affinity purification is used to isolate and purify the recombinant mouse Irak3 protein from the cell lysate. Denaturing SDS-PAGE is employed to resolve the resulting recombinant mouse Irak3 protein, revealing a purity greater than 85%.

IRAK3, also called interleukin-1 receptor-associated kinase 3, is a protein that helps steer the body's initial immune response and tackle inflammation. It's like a traffic cop for inflammatory signals and is linked to conditions like sepsis [1]. IRAK3 acts as a brake on certain immune pathways, keeping the production of inflammatory substances in check and helping maintain a balance in the body's response to inflammation [2]. In some cancers, it puts the brakes on the immune system, allowing cancer cells to evade destruction [3]. Plus, it's a key player in regulating the body's initial immune response, especially in conditions like obesity and metabolic syndrome [4]. By tweaking certain immune signals, it could give clues about how inflammation might progress [5]. In the world of cancer, it helps control how signals move around and how the immune system responds within tumors, which could affect cancer treatments [6].

References:

- [1] T. Nguyen, I. Turek, T. Meehan-Andrews, A. Zacharias, & H. Irving, Analysis of interleukin-1 receptor associated kinase-3 (irak3) function in modulating expression of inflammatory markers in cell culture models: a systematic review and meta-analysis, Plos One, vol. 15, no. 12, p. e0244570, 2020.
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- [2] P. Cohen, The tlr and il-1 signalling network at a glance, Journal of Cell Science, 2014. <https://doi.org/10.1242/jcs.149831>
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- [5] L. Freihat, J. Wheeler, A. Wong, I. Turek, D. Manallack, & H. Irving, Irak3 modulates downstream innate immune signalling through its guanylate cyclase activity, *Scientific Reports*, vol. 9, no. 1, 2019. <https://doi.org/10.1038/s41598-019-51913-3>
- [6] G. Tunali, M. Bedós, D. Nagarajan, P. Fridh, I. Papakyriacou, & Y. Mao, Il-1 receptor-associated kinase-3 acts as an immune checkpoint in myeloid cells to limit cancer immunotherapy, *Journal of Clinical Investigation*, vol. 133, no. 7, 2023. <https://doi.org/10.1172/jci161084>

Shelf Life

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