

## MRJP1 Protein, Apis mellifera, Recombinant (His)

### General Information

Synonyms:	Apisin subunit MRJP1;Bee-milk protein;MRJP-1;Major royal jelly protein 1;MRJP1;56-kDa protein 4 (p56kP-4);Apalbumin 1;Royalactin
Protein Construction:	20-432 aa
Species:	Apis mellifera
Expression Host:	P. pastoris (Yeast)
Accession:	O18330
Molecular Weight:	48.9 kDa (predicted)
AA Sequence:	<pre>NILRGESLNKSLPILHEWKFFDYDFGSDERRQDAILSGEYDYKNNYPSDIDQWHDKIFVTMLRYNGVPSSLNVI SKKVGDDGGPLLQPYPDWSFAKYDDCSGIVSASKLAIDKCDRLWVLD SGLVNNTQPMCSPKLLTFDLTTSQLL KQVEIPHDVAVNATTGKGR LSSLAVQSLDCNTNSDTMVYIADEKGEGLIVYHNSDDSFHRLTSNTFDYDPKFT KMTIDGESYTAQDGISGMALSPMTNNLYSPVASTSLYYVNTEQFRTSDYQQNDIHYEGVQNILDTQSSAKV VSKSGVLFFGLVGDSALGCWNEHRTLERHNIRTVAQSD ETLQMIASMKIKEALPHVPIFDRIYINREYILVLSNK MQKMVNNDNFDDVNFRI MNANVNELILNTRCENPDNDRTPFKISIH L</pre>

### QC Testing

Biological Activity:	Activity has not been tested. 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:	Tris-based buffer, 50% glycerol

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

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.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Induces the differentiation of honeybee larvae into queens through an Egfr-mediated signaling pathway.

Promotes body size increase by activating p70 S6 kinase, stimulates ovary development by augmenting the titer of vitellogenin (Vg) and juvenile hormone, and reduces developmental time by increasing the activity of mitogen-activated protein kinase and inducing the 20-hydroxyecdysone protein (20E). Most abundant protein found in the royal jelly which is the food of the queen honey bee larva. The royal jelly determines the development of the young larvae and is responsible for the high reproductive ability of the honeybee queen.; Has antibacterial activity against the Gram-positive bacteria *S.aureus* ATCC 6535, *S.saprophyticus* and *B.subtilis* CCT2471, and the Gram-negative bacteria *E.coli* CCT1371, *E.cloacae* ATCC 23355, *K.pneumoniae* ATCC 13883 and *P.aeruginosa* ATCC 27853, and antifungal activity against *C.albicans*. Lack cytolytic activity and does not induce rat peritoneal mast cell degranulation.; Has antibacterial activity against the Gram-positive bacteria *S.aureus* ATCC 6535, *S.saprophyticus* and *B.subtilis* CCT2471, and the Gram-negative bacteria *E.coli* CCT1371, *E.cloacae* ATCC 23355, *K.pneumoniae* ATCC 13883 and *P.aeruginosa* ATCC 27853, and antifungal activity against *C.albicans*. Lack cytolytic activity and does not induce rat peritoneal mast cell degranulation.; Lacks antibacterial and antifungal activity. Lacks cytolytic activity and does not induce rat peritoneal mast cell degranulation.

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