

## Product datasheet for **RR200240**

### Bag6 (NM\_053609) Rat Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Bag6 (NM_053609) Rat Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Bag6
Synonyms:	Bat3
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin
ORF Nucleotide Sequence:	>RR200240 representing NM_053609 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
GCC**CGGATCGCC**

ATGGAGCCGAGTGATAGTACCAGTACCGCTATGGAGGAGCCTGACAGCCTGGAGGTACTGGTGAAGACCC  
TGGACTCTCAGACTCGGACTTTTATTGTGGGGCCAGATGAATGTAAGGAGTTAAGGAACACATAGC  
TGCTCTGTGAGCATCCCTTCCGAGAAACAGCGGCTCATCTACCAGGGCCGGTCTACAAGATGACAAG  
AAGCTCCAGGACTACAATGTTGGGGAAAGTTATCCACCTGGTGAACGGGCTCCTCCTCAGACTCAGC  
TACCTTCTGGAGCATCTTCTGGGACAGGCTCTGCCTCAGTACTCATGGTGGGGGCCCTCGCTGGCAC  
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GCCCTCCAGTCTCTGGAGCTCTAGGTGCTGGGCTGGGTACAAACTTCATTGGCCAGATGGTGAGCGG  
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ACGCGTACGCGGCCGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAATGATATCCTGGATT  
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**Protein Sequence:**

>RR200240 representing NM\_053609

Red=Cloning site Green=Tags(s)

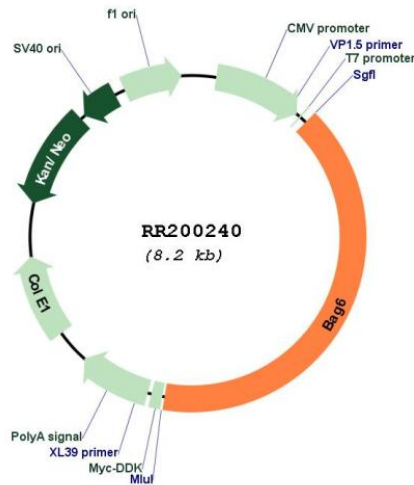
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 LSDAYLSGMPAKRRKLRSDIQRLQEDPNYSPQRFNHRFAFADDP

TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

**Restriction Sites:**

Sgfl-MluI

**Cloning Scheme:**

**Plasmid Map:**


ACCN: NM\_053609

ORF Size: 3288 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

<b>Components:</b>	The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).
<b>Reconstitution Method:</b>	<ol style="list-style-type: none"><li>1. Centrifuge at 5,000xg for 5min.</li><li>2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.</li><li>3. Close the tube and incubate for 10 minutes at room temperature.</li><li>4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.</li><li>5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.</li></ol>
<b>RefSeq:</b>	<u>NM_053609.2, NP_446061.2</u>
<b>RefSeq Size:</b>	3659 bp
<b>RefSeq ORF:</b>	3291 bp
<b>Locus ID:</b>	94342
<b>UniProt ID:</b>	<u>Q6MG49</u>
<b>Cytogenetics:</b>	20p12
<b>MW:</b>	114.6 kDa

**Gene Summary:**

ATP-independent molecular chaperone preventing the aggregation of misfolded and hydrophobic patches-containing proteins. Functions as part of a cytosolic protein quality control complex, the BAG6/BAT3 complex, which maintains these client proteins in a soluble state and participates to their proper delivery to the endoplasmic reticulum or alternatively can promote their sorting to the proteasome where they undergo degradation. The BAG6/BAT3 complex is involved in the post-translational delivery of tail-anchored/type II transmembrane proteins to the endoplasmic reticulum membrane. Recruited to ribosomes, it interacts with the transmembrane region of newly synthesized tail-anchored proteins and together with SGTA and ASNA1 mediates their delivery to the endoplasmic reticulum. Client proteins that cannot be properly delivered to the endoplasmic reticulum are ubiquitinated by RNF126, an E3 ubiquitin-protein ligase associated with BAG6 and are sorted to the proteasome. SGTA which prevents the recruitment of RNF126 to BAG6 may negatively regulate the ubiquitination and the proteasomal degradation of client proteins. Similarly, the BAG6/BAT3 complex also functions as a sorting platform for proteins of the secretory pathway that are mislocalized to the cytosol either delivering them to the proteasome for degradation or to the endoplasmic reticulum. The BAG6/BAT3 complex also plays a role in the endoplasmic reticulum-associated degradation (ERAD), a quality control mechanism that eliminates unwanted proteins of the endoplasmic reticulum through their retrotranslocation to the cytosol and their targeting to the proteasome. It maintains these retrotranslocated proteins in an unfolded yet soluble state condition in the cytosol to ensure their proper delivery to the proteasome. BAG6 is also required for selective ubiquitin-mediated degradation of defective nascent chain polypeptides by the proteasome. In this context, it may participate to the production of antigenic peptides and play a role in antigen presentation in immune response. BAG6 is also involved in endoplasmic reticulum stress-induced pre-emptive quality control, a mechanism that selectively attenuates the translocation of newly synthesized proteins into the endoplasmic reticulum and reroutes them to the cytosol for proteasomal degradation. BAG6 may ensure the proper degradation of these proteins and thereby protects the endoplasmic reticulum from protein overload upon stress. By inhibiting the polyubiquitination and subsequent proteasomal degradation of HSPA2 it may also play a role in the assembly of the synaptonemal complex during spermatogenesis. Also positively regulates apoptosis by interacting with and stabilizing the proapoptotic factor AIFM1. By controlling the steady-state expression of the IGF1R receptor, indirectly regulates the insulin-like growth factor receptor signaling pathway.

[UniProtKB/Swiss-Prot Function]