Rat B2M ORF mammalian expression plasmid, N-Myc tag

Catalog Number: RG80423-NM

General Information
Gene: beta-2 microglobulin
Official Symbol: B2M
Synonym: B2m
Source: Rat
cDNA Size: 360bp
RefSeq: NM_012512.2

Description
Lot: Please refer to the label on the tube
Vector: pCMV3-SP-N-Myc
Shipping carrier:
Each tube contains approximately 10 μg of lyophilized plasmid.

Storage:
The lyophilized plasmid can be stored at ambient temperature for three months.

Quality control:
The plasmid is confirmed by full-length sequencing with primers in the sequencing primer list.

Sequencing primer list:

<table>
<thead>
<tr>
<th>Primer</th>
<th>Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>pCMV3-F</td>
<td>5’ CAGGTGTCCACTCCAGGTCCAG 3’</td>
</tr>
<tr>
<td>pcDNA3-R</td>
<td>5’ GGCAACTGAAGGCACAGTCGAGG 3’</td>
</tr>
<tr>
<td>Or</td>
<td></td>
</tr>
<tr>
<td>Forward T7</td>
<td>5’ TAATACGACTCACTAGAGGG 3’</td>
</tr>
<tr>
<td>ReverseBGH</td>
<td>5’ TAGAAGGACACAGTCGAGG 3’</td>
</tr>
</tbody>
</table>

Plasmid Resuspension protocol
1. Centrifuge at 5,000 × g for 5 min.
2. Carefully open the tube and add 100 μl of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin to concentrate the liquid at the bottom. Speed is less than 5000 × g.
5. Store the plasmid at -20 °C.

The plasmid is ready for:
- Restriction enzyme digestion
- PCR amplification
- E. coli transformation
- DNA sequencing

E. coli strains for transformation (recommended but not limited)

Most commercially available competent cells are appropriate for the plasmid, e.g. TOP10, DH5α and TOP10F’.

pCMV3-F and pcDNA3-R are designed by Sino Biological Inc. Customers can order the primer pair from any oligonucleotide supplier.
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Vector Information

All of the pCMV vectors are designed for high-level stable and transient expression in mammalian hosts. High-level stable and non-replicative transient expression can be carried out in most mammalian cells. The vectors contain the following elements:

• Human enhanced cytomegalovirus immediate-early (CMV) promoter for high-level expression in a wide range of mammalian cells.
• Hygromycin resistance gene for selection of mammalian cell lines.
• A Kozak consensus sequence to enhance mammalian expression.

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<th>Vector Name</th>
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<tr>
<td>Vector Size</td>
<td>6149bp</td>
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<tr>
<td>Vector Type</td>
<td>Mammalian Expression Vector</td>
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<tr>
<td>Expression Method</td>
<td>Constitutive, Stable / Transient</td>
</tr>
<tr>
<td>Promoter</td>
<td>CMV</td>
</tr>
<tr>
<td>Antibiotic Resistance</td>
<td>Kanamycin</td>
</tr>
<tr>
<td>Selection in Mammalian Cells</td>
<td>Hygromycin</td>
</tr>
<tr>
<td>Protein Tag</td>
<td>Myc</td>
</tr>
</tbody>
</table>
**pCMV3-SP-N-Myc** (suitable for secretary and membrane protein expression)

**Physical Map**

![Physical Map Diagram]

**Comments for pCMV3-SP-N-Myc:**

- **CMV promoter:** bases 250-837
- **enhancer:** bases 838-1445
- **SV40 early promoter:** bases 2390-2759
- **Hygromycin ORF:** bases 2777-3802
- **pUC origin:** bases 4445-5118
- **Kanamycin ORF:** bases 5192-6007

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| Sequencing Primer | Forward: T7(TAATACGACTCACTATAGGG)  
Reverse: BGH(TAGAAGGCACAGTCGAGG) |

**Schematic of pCMV3-SP-N-Myc Multiple Cloning Sites**

```
1415  GGTGTCACCTCCAGTGGCAAGTTTAAAACCTCTATAGCGATCAGATAG
        T7 primer binding site
        Kozak

1475  AAG CTT  GGT ACC  ATGCCACTGTGCTCTTGTGCTCTTGGCTGGGCTGGCCTGCTGCTGCTGCTG
        Human CDS3 Signal Peptide

1535  GAG CAG AAA CTC ATC TCA GAA GAG GAT CTG
        Myc

1593  GCT AGC  GGA TCC  GCT AAG  ACC GGT  GAT ATC  ATC GAT  TAA A
        Stop Codon

1629  CTC GAG  TCT AGA  GCG GCC CCC  GAATTC  GGG CCC  GTTAAAC
        BGH Primer binding site

1671  CCCTGATCGTCGTCGCTCTCTA  GTTGCTGAGCCATCGTGGTGTGC
```

pCMV3-SP-N-Myc is recommended for constructing the N-Myc tag secretary and membrane proteins expression vector which containing a naïve signal peptide. An universal signal peptide is used to instead the naïve signal peptide.