Rat ACVR1 ORF mammalian expression plasmid, N-Flag tag

Catalog Number:  RG80118-NF

General Information
Gene : activin A receptor, type I
Official Symbol : ACVR1
Synonym : Acvr1
Source : Rat
cDNA Size: 1530bp
RefSeq : NM_024486.1
Plasmid: pCMV3-Flag-ratACVR1

Description
Lot : Please refer to the label on the tube
Sequence Description :
Identical with the Gene Bank Ref. ID sequence except for the point mutations: 645A/G, 849T/G not causing the amino acid variation.
Restriction site: KpnI (two restriction sites) + NotI (6kb + 1.52kb + 0.09kb)
Vector : pCMV3-SP-N-FLAG

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’ CAGGTGTCCACTCCAGGTCAAG 3’</td>
</tr>
<tr>
<td>pcDNA3-R</td>
<td>5’ GGCACTAGAAGGCAAGTCAAG 3’</td>
</tr>
</tbody>
</table>

Or

<table>
<thead>
<tr>
<th>Primer</th>
<th>Sequence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forward T7</td>
<td>5’ TAATACGACTCACTATAGGG 3’</td>
</tr>
<tr>
<td>ReverseBGH</td>
<td>5’ TAGAAGGCACAGTCGAGG 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’.
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.

Physical Map of Plasmid:

Catalog Number: RG80118-NF

Vector Name: pCMV3-SP-N-FLAG
Vector Size: 6143bp
Vector Type: Mammalian Expression Vector
Expression Method: Constitutive, Stable/Transient
Promoter: CMV
Antibiotic Resistance: Kanamycin
Selection in Mammalian Cells: Hygromycin
Protein Tag: FLAG
pCMV3-SP-N-FLAG (suitable for secretary and membrane protein expression)

Physical Map

Description

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<tr>
<td>Protein Tag</td>
<td>FLAG</td>
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<tr>
<td>Sequencing Primer</td>
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</tr>
<tr>
<td></td>
<td>Reverse: BGH(TAGAAGGCACAGTCGAGG)</td>
</tr>
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</table>

Schematic of pCMV3-SP-N-FLAG Multiple Cloning Sites

pCMV3-SP-N-Flag is recommended for constructing the N-FLAG 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.