

## Product datasheet for **MG224120**

### Agrn (NM\_021604) Mouse Tagged ORF Clone

#### Product data:

**Product Type:** Expression Plasmids  
**Product Name:** Agrn (NM\_021604) Mouse Tagged ORF Clone  
**Tag:** TurboGFP  
**Symbol:** Agrn  
**Synonyms:** Agrin; nmf380  
**Mammalian Cell Selection:** Neomycin  
**Vector:** pCMV6-AC-GFP (PS100010)  
**E. coli Selection:** Ampicillin (100 ug/mL)  
**ORF Nucleotide Sequence:** >MG224120 representing NM\_021604  
 Red=Cloning site Blue=ORF Green=Tags(s)

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 GCCGGCGGCC

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GAGGAGGCCCGTGCAGGGCCGTGTGAGCCGGCTGAGTGTGGCTCAGGGGGCTCTGGGTCTGGGAAGACA  
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ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

**Protein Sequence:**

>MG224120 representing NM\_021604  
 Red=Cloning site Green=Tags(s)

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 SVGDLETLAFDGRTYIEYLNAVTESEKALQSNHFELSLRTEATQGLVLWIGKVGGERADYMALAIVDGHQLQ  
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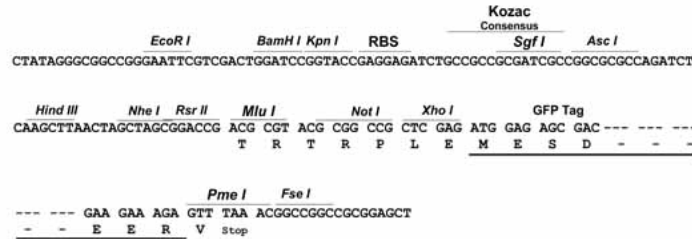
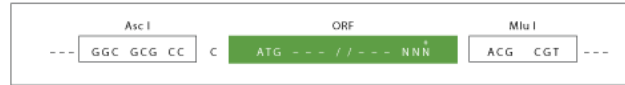
TRTRPLE - GFP Tag - V

**Restriction Sites:**

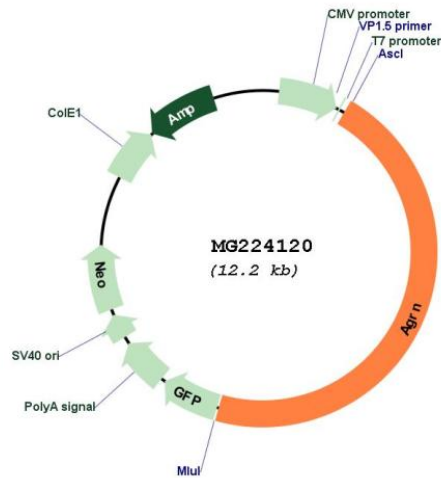
Ascl-MluI

**Cloning Scheme:**

Cloning sites used for ORF Shuttling:



**Plasmid Map:**



ACCN: NM\_021604  
 ORF Size: 5598 bp

<b>OTI Disclaimer:</b>	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. <a href="#">More info</a>
<b>OTI Annotation:</b>	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>	<a href="#">NM_021604.2</a> , <a href="#">NP_067617.2</a>
<b>RefSeq Size:</b>	7379 bp
<b>RefSeq ORF:</b>	6105 bp
<b>Locus ID:</b>	11603
<b>Cytogenetics:</b>	4 88.55 cM
<b>Gene Summary:</b>	Isoform 1: heparan sulfate basal lamina glycoprotein that plays a central role in the formation and the maintenance of the neuromuscular junction (NMJ) and directs key events in postsynaptic differentiation. This neuron-specific (z+) isoform is a component of the AGRN-LRP4 receptor complex that induces the phosphorylation and activation of MUSK. The activation of MUSK in myotubes induces the formation of NMJ by regulating different processes including the transcription of specific genes and the clustering of AChR in the postsynaptic membrane. Calcium ions are required for maximal AChR clustering. AGRN function in neurons is highly regulated by alternative splicing, glycan binding and proteolytic processing. Modulates calcium ion homeostasis in neurons, specifically by inducing an increase in cytoplasmic calcium ions. Functions differentially in the central nervous system (CNS) by inhibiting the alpha(3)-subtype of Na <sup>+</sup> /K <sup>+</sup> -ATPase and evoking depolarization at CNS synapses. This transmembrane agrin (TM-agrin) isoform, the predominate form in neurons of the brain, induces dendritic filopodia and synapse formation in mature hippocampal neurons in large part due to the attached glycosaminoglycan chains and the action of Rho-family GTPases.[UniProtKB/Swiss-Prot Function]