

## Product datasheet for **MG225478**

### Esrrb (NM\_011934) Mouse Tagged ORF Clone

#### Product data:

Product Type:	Expression Plasmids
Product Name:	Esrrb (NM_011934) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Esrrb
Synonyms:	Err2; Errb; Estrrb; Nr3b2
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



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**ORF Nucleotide Sequence:**

>MG225478 representing NM\_011934  
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC  
 GCC**CGGATCGCC**

ATGGACGTGTCCGAACCTCTGCATCCCGGACCCCTTGGCTACCACAACCAGCTGCTGAACCGAATGTCGT  
 CCGAAGACAGGCACCTGGGCTCTAGTTGCGGCTCCTTCATCAAGACGGAGCCATCCAGCCGTCCTCGGG  
 CATTGATGCCCTCAGCCACCACAGCCCCAGCGGCTCGTCGGACGCCAGTGGTGGCTTTGGCATTGCCCTG  
 AGCACCCACGCCAACGGTCTGGACTCGCCGCTATGTTTCGAGGTGCGGGGCTGGGAGGCAACCCGTGCC  
 GCAAGAGCTACGAGGACTGTACTAGTGGTATCATGGAGGACTCCGCCATCAAATGCGAGTACATGCTTAA  
 CGCCATCCCCAAGCGCTGTGCCTCGTGTGCGGGGACATTGCCTCTGGCTACCACTACGGAGTGGCTCC  
 TGCGAGGCTTGAAGGCTTCTCAAGAGAACCATTCAAGGCAACATCGAGTACAACCTGCCCGGCCACCA  
 ATGAATGTGAGATCACCAAACGGAGGCGCAAGTCTGTGAGGCTGCCGATTTCATGAAATGCCTCAAAGT  
 GGGGATGCTGAAGGAAGGTGTGCGCCTTGACCGAGTTCGAGGAGGCCCGAGAAGTACAAGCGACGGCTG  
 GATTTCGGAGAACAGCCCTACCTGAACCTGCCGATTTCCCACTGCTAAAAAGCCATTGACTAAGATCG  
 TCTCGAATCTACTAGGGTTGAGCAGGACAAGCTGTATGCTATGCCTCCCAACGATATCCCCGAGGGAGA  
 TATCAAGGCCCTGACCACTCTCTGTGAATTGGCAGATCGGGAGCTTGTGTTCTCATCAACTGGGCAAG  
 CACATCCCAGGCTTCCCCAGTCTGACACTTGGGGACCAGATGAGCCTGCTGCAGAGTGCCTGGATGGAGA  
 TTCTCATCTTGGGCATCGTGTACCGCTCGCTCCATACGATGACAAGCTGGCATAACGCCGAGGACTATAT  
 CATGGATGAGGAACACTCTCGCCTGGTAGGGTCTGCTGGACCTTACCGAGCCATCCTGCAGCTGGTGGCG  
 AGGTACAAGAACTCAAGGTAGAGAAGGAAGAGTTTATGATCCTCAAGGCCCTGGCCCTCGCCAACCTCAG  
 ATTCGATGTACATTGAGAACCTGGAGGCGGTGCAGAAGCTCCAGGACCTGCTGCAGGAGGCGCTGCAGGA  
 CTATGAGCTGAGTCAGCGCCACGAGGAGCCGCGGAGGGCCGCAAGCTGCTGCTGACGCTGCCCTGCTG  
 AGGCAGACAGCCCAAAGCCGTGCAACACTTCTACAGTGTGAACTGCAGGGCAAGGTGCCCATGCACA  
 AACTCTTCTGGAGATGCTGGAGCCAAGTG

**ACGCGT**ACGCGGCCGCTCGAG – GFP Tag – GTTTAA

**Protein Sequence:**

>MG225478 representing NM\_011934  
 Red=Cloning site Green=Tags(s)

MDVSELCIPDPLGYHNQLLNRMSSDRHLGSSCGSFIKTEPSSPSSGIDALSHHSPSGSSDASGGFGIAL  
 STHANGLDSPPMFAGAGLGGNPCRKSYEDCTSGIMEDSAIKCEYMLNAIPKRLCLVCGDIASGYHYGVAS  
 CEACKAFFKRTIQGNIEYNCPATNECEITKRRRKSCQACRFMKCLKVGMKEGVRLDRVRGGRQKYKRRL  
 DSENSPYLNLPI SPPAKKPLTKIVSNLLGVEQDKLYAMPPNDIPEGDIKALTTLCELADRELVFLINWAK  
 HIPGFPSLTLGDQMSLLQSAWMEILILGIYRSLPYDDKLAYAEDYIMDEEHSRLVGLLDLYRAILQLVR  
 RYKCLKVEKEEFMILKALALANSDSMYIENLEAVQKLQDLLHEALQDYEL SQRHEEPRRAGKLLLTPLL  
 RQTAAKAVQHFYSVKLQKVPMHKLFLEMLEAKV

**TR**TRPLE – GFP Tag – V

**Restriction Sites:**

SgfI-MluI

**Cloning Scheme:**


**ACCN:** NM\_011934

**ORF Size:** 1362 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.

**Components:** 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).

**Reconstitution Method:**

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul 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 (less than 5000xg) to concentrate the liquid at the bottom.
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.

**RefSeq:** [NM\\_011934.4](#), [NP\\_036064.3](#)

**RefSeq Size:** 4208 bp

**RefSeq ORF:** 1365 bp

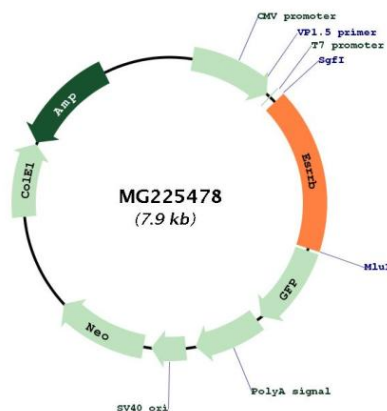
**Locus ID:** 26380

**UniProt ID:** [Q61539](#)

**Cytogenetics:** 12 40.49 cM

**Gene Summary:**

Transcription factor that binds a canonical ESRRB recognition (ERRE) sequence 5'TCAAGGTCA-3' localized on promoter and enhancer of targets genes regulating their expression or their transcriptional activity (PubMed:27601327, PubMed:23169531, PubMed:23508100, PubMed:26206133, PubMed:20534447, PubMed:18662995, PubMed:18957414, PubMed:27723719, PubMed:23019124). Plays a role, in a LIF-independent manner, in maintenance of self-renewal and pluripotency of embryonic and trophoblast stem cells through different signaling pathways including FGF signaling pathway and Wnt signaling pathways (PubMed:18957414, PubMed:26206133, PubMed:20534447, PubMed:23040478, PubMed:23040477, PubMed:23019124, PubMed:23169531). Upon FGF signaling pathway activation, interacts with KDM1A by directly binding to enhancer site of ELF5 and EOMES and activating their transcription leading to self-renewal of trophoblast stem cells (PubMed:26206133). Also regulates expression of multiple rod-specific genes and is required for survival of this cell type (PubMed:20534447). Plays a role as transcription factor activator of GATA6, NR0B1, POU5F1 and PERM1 (PubMed:18662995, PubMed:23508100, PubMed:18957414). Plays a role as transcription factor repressor of NFE2L2 transcriptional activity and ESR1 transcriptional activity (By similarity). During mitosis remains bound to a subset of interphase target genes, including pluripotency regulators, through the canonical ESRRB recognition (ERRE) sequence, leading to their transcriptional activation in early G1 phase (PubMed:27723719). Can coassemble on structured DNA elements with other transcription factors like SOX2, POU5F1, KDM1A and NCOA3 to trigger ESRRB-dependent gene activation (PubMed:23019124, PubMed:23169531, PubMed:18662995, PubMed:26206133). This mechanism, in the case of SOX2 corecruitment prevents the embryonic stem cells (ESCs) to epiblast stem cells (EpiSC) transition through positive regulation of NR0B1 that inhibits the EpiSC transcriptional program (PubMed:23169531). Also plays a role inner ear development by controlling expression of ion channels and transporters and in early placentation (PubMed:9285590, PubMed:17765677).[UniProtKB/Swiss-Prot Function]

**Product images:**

Circular map for MG225478