

Product datasheet for **MG227124**

Ezh2 (NM_001146689) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ezh2 (NM_001146689) Mouse Tagged ORF Clone
Tag:	TurboGFP
Symbol:	Ezh2
Synonyms:	Enx-1; Enx1h; KMT6; mKIAA4065
Mammalian Cell Selection:	Neomycin
Vector:	pCMV6-AC-GFP (PS100010)
E. coli Selection:	Ampicillin (100 ug/mL)



[View online »](#)

ORF Nucleotide Sequence:

>MG227124 representing NM_001146689
 Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
 GCC**CGGATCGCC**

ATGGGCCAGACTGGGAAGAAATCTGAGAAGGGACCGGTTTGTGGCGGAAGCGTGTAAAATCAGAGTACA
 TGAGACTGAGACAGCTCAAGAGGTTTCAAGAGAGCTGATGAAGTAAAGACTATGTTTAGTTCCAATCGTCA
 GAAAAATTTGGAAAGAACTGAAACCTTAAACCAAGAGTGAAGCAGCGGAGGATACAGCCTGTGCACATC
 ATGACTTCTTGTTCAGTCACCAGTGACTTGGATTTTCCAGCACAAAGTATCCCGTTAAAGACCCTGAATG
 CAGTCGCCTCGGTGCCTATAATGTACTCTTGGTCGCCCTTACAACAGAATTTTATGGTGGAAAGACGAAAC
 TGTTTTACATAACATTCCTTATATGGGGGATGAAGTCTGGATCAGGATGGCACTTTCATTGAAGAACTA
 AAAAAAATTATGATGAAAAAGTGCATGGTGACAGAGAATGTGGATTTATAAATGATGAAATTTTTGTGG
 AGTTGGTAAATGCTCTTGGTCAATATAATGATGATGATGATGACGATGATGGAGATGATCCAGATGAAAG
 AGAAGAAAAACAGAAAGATCTAGAGGATAATCGAGATGATAAAGAAACTTGCCACCTCGGAAATTTCT
 GCTGATAAAATATTTGAAGCCATTTCTCAATGTTCCAGATAAGGGCACCGCAGAAAGAACTGAAAGAAA
 AATATAAAGAACTCACGGAGCAGCAGCTCCAGGTGCTCTGCCTCCTGAATGTACTCCAAACATCGATGG
 ACCAAATGCCAAATCTGTTTCAAGGGAGCAAAGCTTGCATTTCATTTACGCTCTTCTGTGCGACGATGT
 TTTAAGTATGACTGCTTCTACATCGTAAGTGCAGTTATTCCTCCATGCAACACCCAATACATATAAGA
 GGAAGAACACAGAAACAGCTTTGGACAACAAGCCTTGTGGACCACAGTGTACCAGCATCTGGAGGGAGC
 TAAGGAGTTTGTGCTGCTCTTACTGCTGAGCGTATAAAGACACCACCTAAACGCCAGGGGGCCGAGC
 AGAGGAAGACTCCGAATAACAGTAGCAGACCCAGCACCACCATCAGTGTGCTGGAGTCAAAGGATA
 CAGACAGTGACAGAGAAGCAGGACTGAAACTGGGGGAGAGAACAATGATAAAGAAGAAGAGAGAAAA
 AGATGAGACGTCCAGCTCCTCTGAAGCAAATTCGGTGTCAAACACCAATAAAGATGAAGCCAAATATT
 GAACCTCCTGAGAATGTGGAGTGGAGTGGTGTGAAGCCTCCATGTTTAGAGTCTCATTGGTACTTACT
 ACGATAACTTTTGTGCCATTGCTAGGCTAATTGGGACCAAAACATGTAGACAGGTGTATGAGTTTAGAGT
 CAAGGAGTCCAGTATCATAGCACCTGTTCCCACTGAGGATGTAGACACTCCTCAAGAAAGAAGAAAAGG
 AAACATCGTTTGTGGCTGCACACTGCAGAAAGATACAACGAAAAAGGACGGCTCCTCTAACCATGTTT
 ACAACTATCAACCCTGTGACCATCCACGGCAGCCTTGTGACAGTTCGTGCCCTTGTGTGATAGCACAAA
 TTTTTGTGAAAAGTTTTGTCAATGTAGTTCAGAGTGTCAAACCGCTTTCTGGATGTCGGTGCAAAGCA
 CAATGCAACACCAACAGTGTCCATGCTACCTGGCTGTCCGAGAGTGTGACCCTGACCTCTGTCTCACGT
 GTGGAGCTGCTGACCATTGGGACAGTAAAAATGTATCCTGTAAGAACTGTAGCATTACAGCGGGGCTCTAA
 AAAGCACTTACTGCTGGCACCGTCTGATGTGGCAGGCTGGGGCATCTTTATCAAAGATCCTGTACAGAAA
 AATGAATTCATCTCAGAATACTGTGGGGAGATTATTTCTCAGGATGAAGCAGACAGAAGAGGAAAAGTGT
 ATGACAAATACATGTGCAGCTTTCTGTTCAACTGAACAATGATTTTGTGGTGGATGCAACCCGAAAGGG
 CAACAAAATTCGTTTTGCTAATCATTAGTAAATCCAACTGCTATGCAAAAGTTATGATGGTAAATGGT
 GACCACAGGATAGGCATCTTTGCTAAGAGGGCTATCCAGACTGGTGAAGAGTTGTTTTTTGATTACAGAT
 ACAGCCAGGCTGATGCCCTGAAGTATGTGGGCATCGAACGAGAAATGAAATCCCT

ACGCGTACGCGGCCGCTCGAG - GFP Tag - GTTTAA

Protein Sequence: >MG227124 representing NM_001146689
 Red=Cloning site Green=Tags(s)

MGQTGKKSEKGPVCWRKRVKSEYMRLRQLKRFRADEVKTMFSSNRQKILERTETLNQEWKQRRIQPVHI
 MTSCSVTSDLDFPAQVIPLKTLNAVASVPIMYSWSPLQQNFMVEDETVLHNIPYMGDEVLDQDGTFFI EEL
 IKNYDGKVVHGDRECGFINDEIFVELVNALGQYNDDDDDDGDDPDEREEKQKDL EDNRDDKETCPPRKFP
 ADKIFEAISSMFPDKGTAEELKEKYKELTEQQLPGALPPECTPNIDGPNKSVQREQLHSFHTLFCRRC
 FKYDCFLHRKCSYSFHATPNTYKRKNTETALDNKPCGPQCYQHLEGAKEFAAALTAERIKTPPKRPGGRR
 RGRLPNNSSRPSTPTISVLESKDTSDREAGTETGGENNDEEEEEKDETS SSSSEANSRCQTPIKMKPNI
 EPPENVEWSGAEASMFVLI GTYD NFAIARLIGTKTRQVYEFVYKES SIIAPVPTEDVDTPPRKKR
 KHRLWAAHCRKIQLKKGSSNHVYNYQPCDHPRQPCDSSCPCVIAQNFCEKFCQCSSECQNRFPGCRCKA
 QCNTKQCPCYLAVRECDPDLCLTCGAADHWDSKNVSKNCNSIQRGSKHLLLAPSDVAGWGF IKDPVQK
 NEFISEYCGEIIISQDEARRGKVDYKYMCSFLFNLNDFVVDATRKGNKIRFANHSVNPNCYAKVMVNG
 DHRIGIFAKRAIQTGEELFFDYRYSQADALKYVGIEREMEIP

TRTRPLE - GFP Tag - V

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shutting:



ACCN: NM_001146689

ORF Size: 2226 bp

OTI Disclaimer: Due to the inherent nature of this plasmid, standard methods to replicate additional amounts of DNA in E. coli are highly likely to result in mutations and/or rearrangements. Therefore, OriGene does not guarantee the capability to replicate this plasmid DNA. Additional amounts of DNA can be purchased from OriGene with batch-specific, full-sequence verification at a reduced cost. Please contact our customer care team at custsupport@origene.com or by calling 301.340.3188 option 3 for pricing and delivery.

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_001146689.1](#), [NP_001140161.1](#)

RefSeq Size: 2653 bp

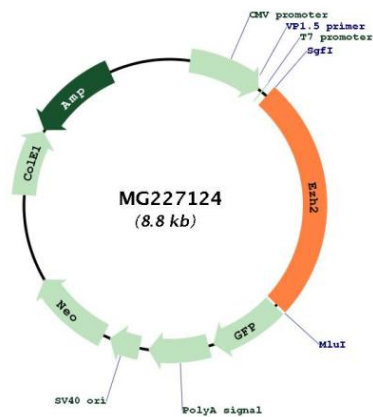
RefSeq ORF: 2229 bp

Locus ID: 14056

Cytogenetics: 6 22.92 cM

Gene Summary:

Polycomb group (PcG) protein. Catalytic subunit of the PRC2/EED-EZH2 complex, which methylates (H3K9me) and 'Lys-27' (H3K27me) of histone H3, leading to transcriptional repression of the affected target gene. Able to mono-, di- and trimethylate 'Lys-27' of histone H3 to form H3K27me1, H3K27me2 and H3K27me3, respectively. Displays a preference for substrates with less methylation, loses activity when progressively more methyl groups are incorporated into H3K27, H3K27me0 > H3K27me1 > H3K27me2. Compared to EZH1-containing complexes, it is more abundant in embryonic stem cells and plays a major role in forming H3K27me3, which is required for embryonic stem cell identity and proper differentiation. The PRC2/EED-EZH2 complex may also serve as a recruiting platform for DNA methyltransferases, thereby linking two epigenetic repression systems. Genes repressed by the PRC2/EED-EZH2 complex include HOXA7, HOXB6 and HOXC8. EZH2 can also methylate non-histone proteins such as the transcription factor GATA4 and the nuclear receptor RORA. Regulates the circadian clock via histone methylation at the promoter of the circadian genes. Essential for the CRY1/2-mediated repression of the transcriptional activation of PER1/2 by the CLOCK-ARNTL/BMAL1 heterodimer; involved in the di and trimethylation of 'Lys-27' of histone H3 on PER1/2 promoters which is necessary for the CRY1/2 proteins to inhibit transcription.[UniProtKB/Swiss-Prot Function]

Product images:


Circular map for MG227124