

Product datasheet for **MR227124**

Ezh2 (NM_001146689) Mouse Tagged ORF Clone

Product data:

Product Type:	Expression Plasmids
Product Name:	Ezh2 (NM_001146689) Mouse Tagged ORF Clone
Tag:	Myc-DDK
Symbol:	Ezh2
Synonyms:	Enx-1; Enx1h; KMT6; mKIAA4065
Vector:	pCMV6-Entry (PS100001)
E. coli Selection:	Kanamycin (25 ug/mL)
Cell Selection:	Neomycin



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ORF Nucleotide
Sequence:

>MR227124 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGGATCGCC**

ATGGGCCAGACTGGGAAGAAATCTGAGAAGGGACCGGTTTGTGGCGGAAGCGTGTAAAATCAGAGTACA
TGAGACTGAGACAGCTCAAGAGGTTTCAAGAGAGCTGATGAAGTAAAGACTATGTTTAGTTCCAATCGTCA
GAAAATTTTGGAAAGAACTGAAACCTTAAACCAAGAGTGGAAAGCAGCGGAGGATACAGCCTGTGCACATC
ATGACTTCTTGTTCAGTCACCAGTGACTTGGATTTTCCAGCACAAAGTCATCCCGTTAAAGACCCTGAATG
CAGTCGCCTCGGTGCCTATAATGTACTCTTGGTCGCCCTTACAACAGAATTTTATGGTGGAAAGACGAAAC
TGTTTTACATAACATTCCTTATATGGGGGATGAAGTCTGGATCAGGATGGCACTTTCATTGAAGAACTA
ATAAAAAATTATGATGGAAGTGCATGGTGACAGAGAATGTGGATTTATAAATGATGAAATTTTTGTGG
AGTTGGTAAATGCTCTTGGTCAATATAATGATGATGATGATGACGATGATGGAGATGATCCAGATGAAAG
AGAAGAAAAACAGAAAGATCTAGAGGATAATCGAGATGATAAAGAAACTTGCCACCTCGGAAATTTCT
GCTGATAAAAATTTTGAAGCCATTTCTCAATGTTCCAGATAAGGGCACCGCAGAAAGAACTGAAAGAAA
AATATAAAGAACTCACGGAGCAGCAGCTCCAGGTGCTCTGCCTCCTGAATGTACTCCAAACATCGATGG
ACCAATGCCAAATCTGTTTCAAGGGAGCAAAGCTTGCATTCATTTACACGCTCTTCTGTGCGAGCATGT
TTTAAGTATGACTGCTTCTACATCGTAAGTGCAGTTATTCCTCCATGCAACACCCAACACATATAAGA
GGAAGAACACAGAAACAGCTTTGGACAACAAGCCTTGTGGACCACAGTGTACCAGCATCTGGAGGGAGC
TAAGGAGTTTGTGCTGCTCTTACTGCTGAGCGTATAAAGACACCACCTAAACGCCAGGGGGCCGAGC
AGAGGAAGACTTCCGAATAACAGTAGCAGACCCAGCACCACCATCAGTGTGCTGGAGTCAAAGGATA
CAGACAGTGACAGAGAAGCAGGGACTGAAACTGGGGGAGAGAACAATGATAAAGAAGAAGAGAGAAAA
AGATGAGACGTCCAGCTCCTCTGAAGCAAATTCGGTGTCAAACACCAATAAAGATGAAGCCAAATATT
GAACCTCTGAGAATGTGGAGTGGAGTGGTGTGAAGCCTCCATGTTTAGAGTCTCATTGGTACTTACT
ACGATAACTTTTGTGCCATTGCTAGGCTAATTGGGACAAAACATGTAGACAGGTGTATGAGTTTAGAGT
CAAGGAGTCCAGTATCATAGCACCTGTTCCCACTGAGGATGTAGACACTCCTCAAGAAAGAAGAAAAGG
AAACATCGTTTGTGGCTGCACACTGCAGAAAGATACAACCTGAAAAGGACGGCTCCTCTAACCATGTTT
ACAACATCAACCCTGTGACCATCCACGGCAGCCTTGTGACAGTTCGTGCCCTTGTGTGATAGCACAAAA
TTTTTGTGAAAAGTTTTGTCAATGTAGTTCAGAGTGTCAAACCGCTTTCTGGATGTCGGTGCAAAGCA
CAATGCAACACCAACAGTGTCCATGCTACCTGGCTGTCCGAGAGTGTGACCCTGACCTCTGTCTCACGT
GTGGAGCTGCTGACCATTGGGACAGTAAAAATGTATCCTGTAAGAACTGTAGCATTACAGCGGGGCTCTAA
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AATGAATTCATCTCAGAATACTGTGGGGAGATTATTTCTCAGGATGAAGCAGACAGAAGAGGAAAAGTGT
ATGACAAATACATGTGCAGCTTCTGTTCAACTGAACAATGATTTTGTGGTGGATGCAACCCGAAAGGG
CAACAAAATTCGTTTTGCTAATCATTAGTAAATCCAACTGCTATGCAAAAGTTATGATGGTTAATGGT
GACCACAGGATAGGCATCTTGTAAAGAGGGCTATCCAGACTGGTGAAGAGTTGTTTTTTGATTACAGAT
ACAGCCAGGCTGATGCCCTGAAGTATGTGGCATCGAACGAGAAATGAAATCCCT

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGAT AAGGTTTAA

Protein Sequence:

>MR227124 protein sequence
 Red=Cloning site Green=Tags(s)

MGQTGKKSEKGPVCRKRVKSEYMRLRQLKRFRADEVKTMFSSNRQKILERTETLNQEWKQRRIQPVHI
 MTSCSVTSDLDFPAQVIPLKTLNAVASVPIMYSWSPLQQNFMVEDETVLHNIPYMGDEVLDQDGTFFI EEL
 IKNYDGKVGHDRECGFINDEIFVELVNALGQYNDDDDDDDGDDPDEREEKQKDL EDNRDDKETCPPRKF
 ADKIFEAISSMFPDKGTA EELKEKYKELTEQQLPGALPPECTPNIDGPNKSVQREQLHSFHTLFCRRC
 FKYDCFLHRKCSYSFHATPNTYKRKNTETALDNKPCGPQCYQHLEGAKEFAAALTAERIKTPPKRPGGRR
 RGRLPNNSSRPSTPTISVLESKDTSDREAGTETGGENNDKEEEEKDETS SSSSEANSRCQTPIKMKPNI
 EPPENVEWSGAEASMFVRLIGTYDNFCAIARLIGTKTCRQVYEFVYKESIIAPVPTEDVDTPPRKKR
 KHRLWAAHCRKIQLKKGSSNHVYNYQPCDHPRQPCDSSPCVIAQNFCEKFCQCSSECQNRFPGCRC
 QCNTKQCPCYLAVRECDPDLCLTCGAADHWDSKNVSKNCNSIQRGSKHLLLAPSDVAGWGF IKDPVQK
 NEFISEYCGEII SQDEARRGKVVYDKMCSFLFNLNDFVVDATRKGKIRFANHSVNPNCYAKVMVNG
 DHRIGIFAKRAIQTGEELFFDYRYSQADALKYVGIEREMEIP

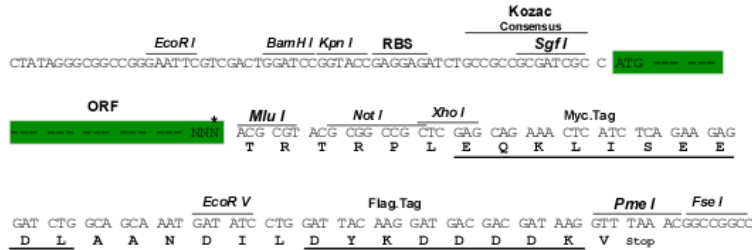
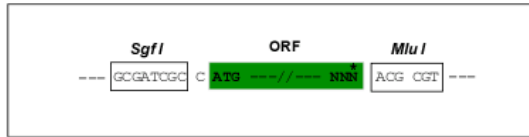
TRTRPLEQKLI SEEDLAANDILDYKDDDDKV

Restriction Sites:

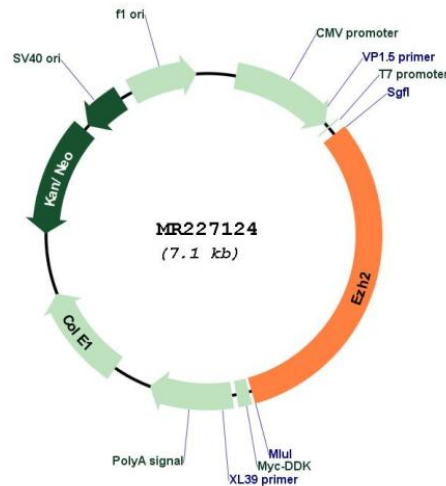
Sgfl-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

Plasmid Map:


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:	<ol style="list-style-type: none">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:	<u>NM_001146689.1, NP_001140161.1</u>
RefSeq Size:	2653 bp
RefSeq ORF:	2229 bp
Locus ID:	14056
Cytogenetics:	6 22.92 cM
MW:	84.9 kDa
Gene Summary:	<p>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]</p>