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EME2 Rabbit pAb

Catalog # AP97552

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	A4GXA9
Other Accession	A4GXA9
Predicted	Rat, Pig, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	41178
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human EME2
Epitope Specificity	21-120/379
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the EME1/MMS4 family.
SUBUNIT	Interacts with MUS81.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	EME2 forms a heterodimer with MUS81 (MIM 606591) that functions as an XPF (MIM 278760)-type flap/fork endonuclease in DNA repair (Ciccia et al., 2007 [PubMed 17289582]).[supplied by OMIM, Mar 2008] Eme2 is a 379 amino acids nuclear protein. As a member of the Eme2/Mms4 family, Eme2 associates with MUS81 to constitute a DNA structure-specific endonuclease. The MUS81-Eme2 complex cleaves branched DNA structures, especially those arising during stalled DNA replication such as replication forks and 3' DNA flaps. Expressed as two alternatively spliced isoforms, Eme2 is encoded by a gene located on human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. Defects in the gene encoding WDR59 may be associated with the rare disorder Rubinstein-Taybi syndrome or Crohn's disease, which is a gastrointestinal inflammatory condition.

Additional Information

Gene ID	197342
Other Names	EME2_HUMAN; EME2; Essential meiotic structure-specific endonuclease subunit 2; essential meiotic endonuclease 1 homolog 2 (S. pombe); SLX2 structure-specific endonuclease subunit homolog B (S. cerevisiae)
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	EME2 {ECO:0000303|PubMed:35290797, ECO:0000312|HGNC:HGNC:27289}
Function	Non-catalytic subunit of the structure-specific, heterodimeric DNA endonuclease MUS81-EME2 which is involved in the maintenance of genome stability. In the complex, EME2 is required for DNA cleavage, participating in DNA recognition and bending (PubMed:17289582, PubMed:24371268, PubMed:24813886, PubMed:35290797). MUS81-EME2 cleaves 3'-flaps and nicked Holliday junctions, and exhibit limited endonuclease activity with 5' flaps and nicked double-stranded DNAs (PubMed:24371268). MUS81-EME2 which is active during the replication of DNA is more specifically involved in replication fork processing (PubMed:17289582, PubMed:24813886). Replication forks frequently encounter obstacles to their passage, including DNA base lesions, DNA interstrand cross-links, difficult-to-replicate sequences, transcription bubbles, or tightly bound proteins. One mechanism for the restart of a stalled replication fork involves nucleolytic cleavage mediated by the MUS81-EME2 endonuclease. By acting upon the stalled fork, MUS81-EME2 generates a DNA double-strand break (DSB) that can be repaired by homologous recombination, leading to the restoration of an active fork (PubMed:24813886). MUS81-EME2 could also function in telomere maintenance (PubMed:24813886).
Cellular Location	Nucleus.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.