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FAN1 Rabbit pAb

Catalog # AP97396

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q9Y2M0
Other Accession	Q9Y2M0
Reactivity	Rat, Human, Mouse
Predicted	Pig, Rabbit, Zebrafish, Chicken, Dog, Horse, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	114225
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human FAN1
Epitope Specificity	361-460/1017
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 FAN1 family. Contains 1 UBZ-type zinc finger. Contains 1 VRR-NUC domain.
SUBUNIT	Interacts with FANCD2 (when monoubiquitinated). Interacts with FANCI, MLH1, MLH3 and PMS2.
DISEASE	Defects in FAN1 are the cause of interstitial nephritis, karyomegalic (KMIN) [MIM:614817]. A rare kidney disease characterized by chronic tubulointerstitial nephritis associated with massively enlarged tubular epithelial cell nuclei. The clinical picture is associated with recurrent upper respiratory tract infections in addition to chronic kidney disease beginning in the third decade of life.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Nuclease required for maintenance of chromosomal stability. Plays a key role in DNA repair of DNA interstrand cross-links (ICL) by being recruited to sites of DNA damage by monoubiquitinated FANCD2. Specifically involved in repair of ICL-induced DNA breaks by being required for efficient homologous recombination, possibly in the resolution of homologous recombination intermediates. Not involved in DNA double-strand breaks resection. Has both endonuclease activity toward 5'-flaps and 5'-exonuclease activity: may act in concert with the 3'-flap-specific enzymes to unhook the ICL by cleaving the lagging-strand template.

Additional Information

Gene ID	22909
Other Names	KIAA1018; KMIN; MTMR15; hFAN1; FAN1_HUMAN; FAN1; FANCD2/FANCI-associated nuclease 1 (hFAN1); Myotubularin-related protein 15; 3.1.21.-; 3.1.4.1; FANCD2 and FANCI associated nuclease 1; myotubularin

	related protein 15; FANCD2/FANCI-associated nuclease 1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,WB=1:500-2000
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	FAN1 {ECO:0000303|PubMed:20603015}
Function	Nuclease required for the repair of DNA interstrand cross- links (ICL) recruited at sites of DNA damage by monoubiquitinated FANCD2. Specifically involved in repair of ICL-induced DNA breaks by being required for efficient homologous recombination, probably in the resolution of homologous recombination intermediates (PubMed:20603015, PubMed:20603016, PubMed:20603073, PubMed:20671156, PubMed:24981866, PubMed:25430771). Not involved in DNA double-strand breaks resection (PubMed:20603015, PubMed:20603016). Acts as a 5'-3' exonuclease that anchors at a cut end of DNA and cleaves DNA successively at every third nucleotide, allowing to excise an ICL from one strand through flanking incisions. Probably keeps excising with 3'-flap annealing until it reaches and unhooks the ICL (PubMed:25430771). Acts at sites that have a 5'-terminal phosphate anchor at a nick or a 1- or 2-nucleotide flap and is augmented by a 3' flap (PubMed:25430771). Also has endonuclease activity toward 5'-flaps (PubMed:20603015, PubMed:20603016, PubMed:24981866).
Cellular Location	Nucleus Note=Localizes at sites of DNA damage following recruitment by monoubiquitinated FANCD2 (PubMed:20603015, PubMed:20603016). Localizes to stalled replication forks via its UBZ4-type zinc finger (PubMed:20935496).

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