

Store at
-20°C
#92448**PAXX (D6X7X) Rabbit mAb**

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H R	Endogenous	22	Rabbit IgG	#Q9BUH6	286257

Product Usage Information**Application**

Western Blotting
Immunoprecipitation

Dilution

1:1000
1:100

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

PAXX (D6X7X) Rabbit mAb recognizes endogenous levels of total PAXX protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro195 of human PAXX protein.

Background

DNA double-strand breaks (DSBs) are the most toxic of DNA lesions. They occur in response to genotoxic stress, and they are also an obligate intermediate in the V(D)J recombination events in the immune system. In mammalian cells, the most prominent mechanism by which cells deal with DSBs is known as NHEJ (non-homologous end joining), and involves a core group of proteins that includes Ku, DNA-PK, XRCC4, and XLF (1).

PAXX, (Paralog of XRCC4 and XLF, also known as C9orf142 or XLS), is a more recently identified component of the NHEJ machinery whose crystal structure resembles that of XRCC4 (2). PAXX directly interacts with Ku, and promotes accumulation of Ku at DSBs (2,3). Depletion of PAXX impairs cellular DSB repair (2-4,5). Paxx ^{-/-} mice develop normally with mild radiosensitivity, but a Paxx/Xlf double knockout is embryonic lethal in mice, indicating synthetic lethality between Paxx and Xlf (6). Paxx/Xlf double knockout have increased apoptosis in post-mitotic motor neurons, as well as impaired development of the adaptive immune system (7).

Background References

1. Tsai, C.J. et al. (2007) *Proc Natl Acad Sci U S A* 104, 7851-6.
2. Ochi, T. et al. (2015) *Science* 347, 185-188.
3. Liu, X. et al. (2017) *Nat Commun* 8, 13816.
4. Craxton, A. et al. (2015) *Cell Death Differ* 22, 890-7.
5. Xing, M. et al. (2015) *Nat Commun* 6, 6233.
6. Balmus, G. et al. (2016) *Genes Dev* 30, 2152-2157.
7. Abramowski, V. et al. (2017) *Cell Death Differ*, 444-452.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human **R:** Rat

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