

Anti-Rad18 (mouse) antibody, rabbit polyclonal

70-025 100 µg

Shipping and Storage: Ship at 4°C or -20°C and store at -20°C

Form: 1 mg/ml IgG fraction in PBS⁻ with 50% glycerol, filter-sterilized. Azide and carrier-protein free

Reactivity: Mouse Rad18 protein. Not reactive to human Rad18.

Immunogen: GST-fusion protein containing 100 carboxyl terminal amino acids of mouse Rad18

Applications (see Ref 1~3)

- 1) Western blotting (1,000 fold dilution).
- 2) Immuno-precipitation (200~500 dilution))
- 3) Indirect immuno-fluorescence staining. (assay dependent)
- 4) Immuno-histochemistry (100~300 fold dilution)

Background: The Rad6 (UBE2B)-Rad18 pair of genes plays a critical role in post-replication repair of damaged DNA. Rad6 protein functions as an E2 enzyme and Rad18 (509 aa, 57.4 kDa) as a ubiquitine ligase (E3) which ubiquitinates PCNA. Rad18 recruits translesion DNA polymerases to damaged DNA.

Database Link: UniProtKB/Swiss-Prot [Q9QXK2](#) Mouse Rad18

Gene ID [16098139](#) Mouse Rad18

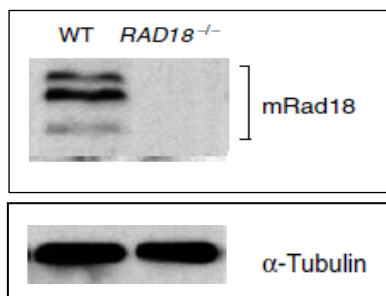


Fig.1. Identification of mouse Rad18 protein in ES cells by Western blot with anti-mRad18 antibody.

WT; Lysate of wild-type mouse ES cells
RAD18^{-/-}; Lysate of *Rad18* double knock-out mouse ES cells
 Protein levels of α -tubulin in the lysates are shown as a control.
 Three bands are absent in *RAD18* knock-out cells.

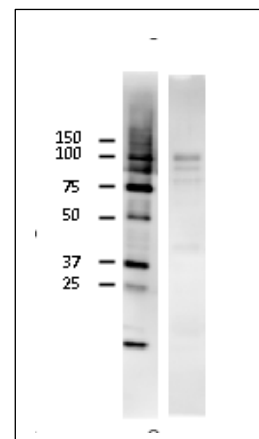


Fig.2. Identification of mouse Rad18 protein in NIH3T3 cells by western blot with the antibody. Cell extract, 23 ug, was used. Anti-mouse Rad18 was used at 2,000 fold dilution. Similar to Fig.1, two extra bands (75~90 kDa) may represent modified products (ubiquitination, phosphorylation).

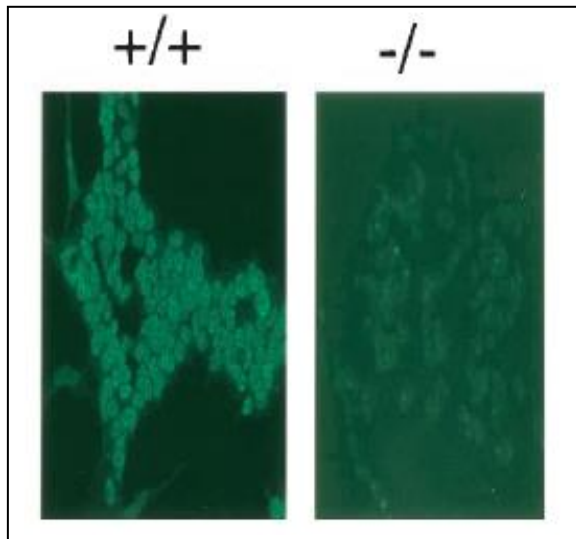


Fig.3. Immunofluorescence staining of Rad18 protein with anti-mRad18 antibody. Wild-type (+/+) and *RAD18*^{-/-} ES cells (-/-). Samples were prefixed 3.7% formaldehyde and fixed with 80% methanol. Anti-mRad18 antibody was used at 1/300 dilution. AS a second antibody, FITC conjugated anti-rabbit IgG was used

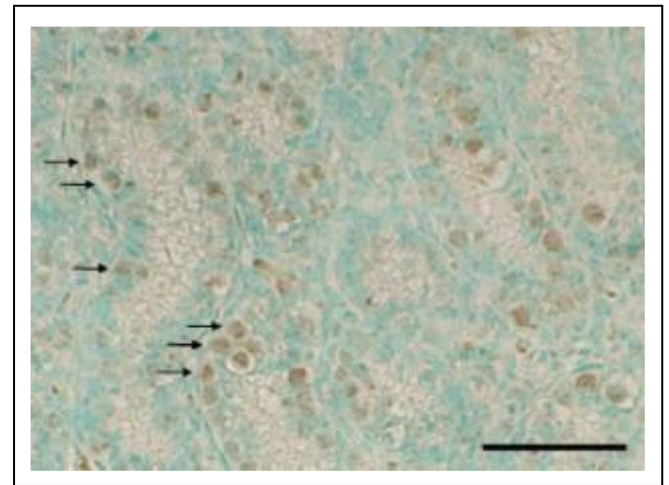


Fig.4. Detection of Rad18 in mouse testis.

Section of paraformaldehyde fixed mouse was stained with anti-mRad18 antibody. As a second antibody, peroxidase-conjugated anti-rabbit IgG donkey antibody was used. Signals were enhanced with TSA plus biotin system and detected by using DAB substrate.

Arrows indicate undifferentiated spermatogonia.

Related Products: [70-020 anti-Rad6 antibody](#) [70-023 anti-Rad18 \(human\) antibody](#)

References: This product has been used in the following publications.

1. Tateishi S. et al. (2003) Enhanced genomic instability and defective postreplication repair in RAD18 knockout mouse embryonic stem cells. *Mol Cell Biol* 23:474-81. **PubMed** [12509447](#) **WB, IF/IC**
2. Watanabe K. et al. (2004) Rad18 guides poleta to replication stalling sites through physical interaction and PCNA monoubiquitination. *EMBO J.* 23:3886-96. **PubMed** [15359278](#) **WB**
3. Masuyama S. et al. (2005) Regulated expression and dynamic changes in subnuclear localization of mammalian Rad18 under normal and genotoxic conditions. *Genes Cells.* 10:753-62. **PubMed** [16098139](#) **IHC**
4. Sun J. et al. (2009) Rad18 is required for long-term maintenance of spermatogenesis in mouse testes. *Mech Dev* 126:173-83. **PubMed** [19068231](#) **IHC, WB**