Revision 1

Store at -20C

#15016

Rad54 (D4W3Z) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355) orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

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	Endogenous	84	Rabbit IgG	#Q92698	8438

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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

Rad54 (D4W3Z) Rabbit mAb recognizes endogenous levels of total Rad54 protein. Based on sequence, this antibody is not expected to recognize Rad54B. This antibody also cross-reacts with an unidentified protein of 200 kDa.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Gly246 of human Rad54 protein.

Background

DNA double-strand breaks (DSBs) are potentially hazardous lesions that can be induced by ionizing radiation (IR), radiomimetic chemicals, or DNA replication inhibitors. Cells sense and repair DSBs via two distinct but partly overlapping signaling pathways, nonhomologous end joining (NHEJ) and homologous recombination (HR). Defects in both pathways have been associated with human disease, including cancer (1). The DNA repair and recombination protein RAD54-like (Rad54, RAD54L) is a Swi2/Snf2 family DNA helicase that is involved in homologous recombination DNA repair. Rad54 is a double-stranded DNA-dependent ATPase that translocates in a processive manner along double-stranded DNA. The Rad54 helicase interacts with the Rad51 recombinase to regulate its DNA binding and strand exchange activities during homologous recombination (2-4). Mutations in the corresponding *RAD54L* gene are associated with multiple forms of human cancer, including non-Hodgkin's lymphoma, breast cancer, and parathyroid adenoma (5-8).

Background References

1. Hartlerode, A.J. and Scully, R. (2009) *Biochem J* 423, 157-68.
2. Sung, P. et al. (2003) *J Biol Chem* 278, 42729-32.
3. Wright, W.D. and Heyer, W.D. (2014) *Mol Cell* 53, 420-32.
4. Ceballos, S.J. and Heyer, W.D. (2011) *Biochim Biophys Acta* 1809, 509-23.
5. Smirnova, M. et al. (2004) *J Biol Chem* 279, 24081-8.
6. Gonzalez, R. et al. (1999) *Br J Cancer* 81, 503-9.
7. Carling, T. et al. (1999) *Int J Cancer* 83, 80-2.
8. Matsuda, M. et al. (1999) *Oncogene* 18, 3427-30.

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

Trademarks and Patents

Limited Uses

terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.