

Immunotag™ Rad50 Polyclonal Antibody

Antibody Specification	
Catalog No.	ITT3963
Product Description	Immunotag™ Rad50 Polyclonal Antibody
Size	50 µg, 100 µg
Conjugation	HRP, Biotin, FITC, Alexa Fluor® 350, Alexa Fluor® 405, Alexa Fluor® 488, Alexa Fluor® 555, Alexa Fluor® 594, Alexa Fluor® 647
IMPORTANT NOTE	This product is custom manufactured with a lead time of 3-4 weeks. Once in production, this item cannot be cancelled from an order and is not eligible for return.
Target Protein	Rad50
Clonality	Polyclonal
Storage/Stability	-20°C/1 year
Application	WB,IHC-p,ELISA
Recommended Dilution	Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. ELISA: 1/20000. Not yet tested in other applications.
Concentration	1 mg/ml
Reactive Species	Human,Mouse,Rat
Host Species	Rabbit
Immunogen	Synthesized peptide derived from Rad50, at AA range: 650-730
Specificity	Rad50 Polyclonal Antibody detects endogenous levels of Rad50 protein.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen
Form	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Gene Name	RAD50
Accession No.	Q92878 P70388 Q9JIL8
Alternate Names	RAD50; DNA repair protein RAD50; hRAD50

Antibody Specification

Description	RAD50 double strand break repair protein(RAD50) Homo sapiens The protein encoded by this gene is highly similar to Saccharomyces cerevisiae Rad50, a protein involved in DNA double-strand break repair. This protein forms a complex with MRE11 and NBS1. The protein complex binds to DNA and displays numerous enzymatic activities that are required for nonhomologous joining of DNA ends. This protein, cooperating with its partners, is important for DNA double-strand break repair, cell cycle checkpoint activation, telomere maintenance, and meiotic recombination. Knockout studies of the mouse homolog suggest this gene is essential for cell growth and viability. Mutations in this gene are the cause of Nijmegen breakage syndrome-like disorder.[provided by RefSeq, Apr 2010],
Cell Pathway/ Category	Homologous recombination,Non-homologous end-joining,
Protein Expression	Colon,Epithelium,Lymph,Testis,
Subcellular Localization	nuclear chromosome, telomeric region,nuclear chromatin,condensed nuclear chromosome,nucleoplasm,membrane,Mre11 complex,site of double-strand break,
Protein Function	<p>cofactor: Binds 1 zinc ion per homodimer.,domain: The zinc-hook, which separates the large intramolecular coiled coil regions, contains 2 Cys residues that coordinate one molecule of zinc with the help of the 2 Cys residues of the zinc-hook of another RAD50 molecule, thereby forming a V-shaped homodimer. The two heads of the homodimer, which constitute the ATP-binding domain, interact with the MRE11A homodimer.,function: Component of the MRN complex, which plays a central role in double-strand break (DSB) repair, DNA recombination, maintenance of telomere integrity and meiosis. The complex possesses single-strand endonuclease activity and double-strand-specific 3'-5' exonuclease activity, which are provided by MRE11A. RAD50 may be required to bind DNA ends and hold them in close proximity. This could facilitate searches for short or long regions of sequence homology in the recombining DNA templates, and may also stimulate the activity of DNA ligases and/or restrict the nuclease activity of MRE11A to prevent nucleolytic degradation past a given point. The complex may also be required for DNA damage signaling via activation of the ATM kinase. In telomeres the MRN complex may modulate t-loop formation.,miscellaneous: In case of infection by adenovirus E4, the MRN complex is inactivated and degraded by viral oncoproteins, thereby preventing concatenation of viral genomes in infected cells.,PTM: Phosphorylated upon DNA damage, probably by ATM or ATR.,sequence caution: Contaminating sequence. Potential poly-A sequence.,similarity: Belongs to the SMC family. RAD50 subfamily.,similarity: Contains 1 zinc-hook domain.,subcellular location: Localizes to discrete nuclear foci after treatment with genotoxic agents.,subunit: Component of the MRN complex composed of two heterodimers RAD50/MRE11A associated with a single NBN. Component of the BASC complex, at least composed of BRCA1, MSH2, MSH6, MLH1, ATM, BLM, RAD50, MRE11A and NBN. Found in a complex with TERF2. Interacts with RINT1. Interacts with BRCA1 via its N-terminal domain. Interacts with DCLRE1C/Artemis.,tissue specificity: Expressed at very low level in most tissues, except in testis where it is expressed at higher level. Expressed in fibroblasts.,</p>
Usage	For Research Use Only! Not for diagnostic or therapeutic procedures.