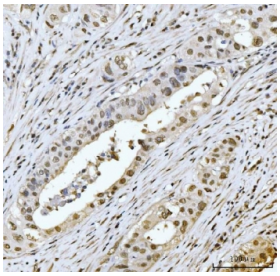
Meiotic Recombination 11 Antibody / MRE11 Antibody (RQ6658)

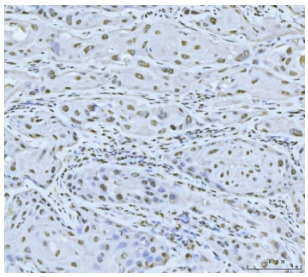
Catalog No.	Formulation	Size
RQ6658	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

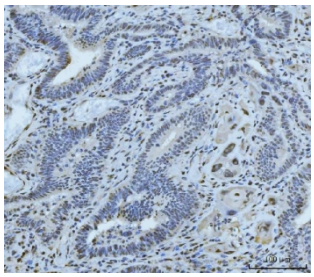
Availability	1-3 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P49959
Localization	Nuclear
Applications	Western blot: 1-2ug/ml Immunohistochemistry (FFPE): 2-5ug/ml Immunofluorescence (FFPE): 5ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This Meiotic Recombination 11 Antibody / MRE11 Antibody is available for research use only.



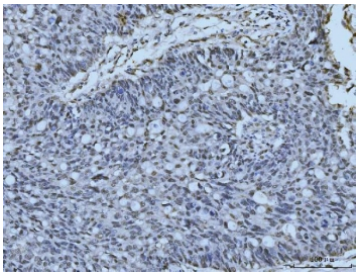
Meiotic Recombination 11 Antibody Human Appendiceal Adenocarcinoma IHC. Immunohistochemical staining of FFPE human appendiceal adenocarcinoma tissue using Meiotic recombination 11 antibody demonstrated predominantly nuclear staining in malignant glandular epithelial cells, consistent with the localization of MRE11 as a core component of the MRN complex involved in DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to staining. This Meiotic recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, MRN complex biology, and gastrointestinal cancer research.



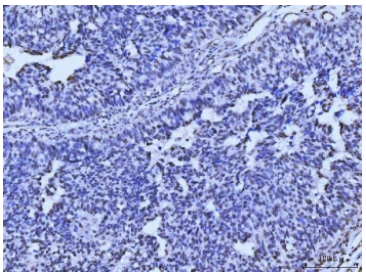
Meiotic Recombination 11 Antibody Human Gallbladder Adenosquamous Carcinoma IHC. Immunohistochemical staining of FFPE human gallbladder adenosquamous carcinoma tissue using Meiotic recombination 11 antibody demonstrated predominantly nuclear staining in malignant epithelial cells, consistent with the localization of MRE11 as a key component of the MRN complex responsible for DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to staining. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, MRN complex biology, and hepatobiliary cancer research.



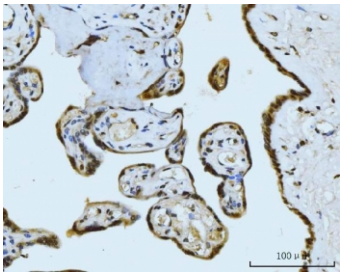
Meiotic Recombination 11 Antibody Human Gallbladder Adenocarcinoma IHC. Immunohistochemical staining of FFPE human gallbladder adenocarcinoma tissue using Meiotic Recombination 11 antibody demonstrated predominantly nuclear staining in malignant glandular epithelial cells, consistent with the localization of MRE11 as a core component of the MRN complex involved in DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to staining. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, MRN complex biology, and hepatobiliary cancer research.



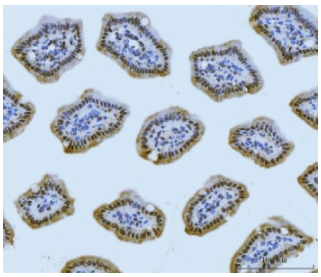
Meiotic Recombination 11 Antibody Human Colonic Adenocarcinoma IHC. Immunohistochemical staining of FFPE human colonic adenocarcinoma tissue using Meiotic Recombination 11 antibody demonstrated predominantly nuclear staining in malignant epithelial cells, consistent with the localization of MRE11 as a key component of the MRN complex responsible for DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to staining. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, MRN complex biology, and colorectal cancer research.



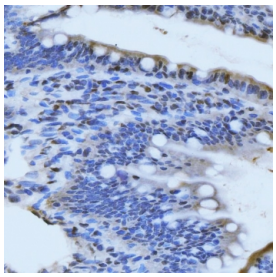
Meiotic Recombination 11 Antibody Human Bladder Carcinoma IHC. Immunohistochemical staining of FFPE human bladder epithelial carcinoma tissue using Meiotic Recombination 11 antibody demonstrated predominantly nuclear staining in malignant urothelial cells, consistent with the localization of MRE11 as a core component of the MRN complex involved in DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to staining. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, MRN complex biology, and bladder cancer research.



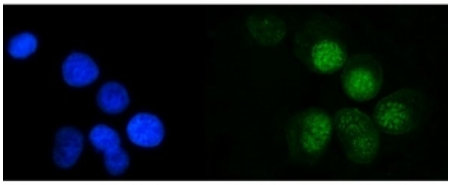
Meiotic Recombination 11 Antibody Human Placenta IHC. Immunohistochemical staining of FFPE human placental tissue using Meiotic Recombination 11 antibody demonstrated predominantly nuclear staining in trophoblast cells, consistent with the localization of MRE11 as a key component of the MRN complex responsible for DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to staining. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, placental biology, and MRN complex function.



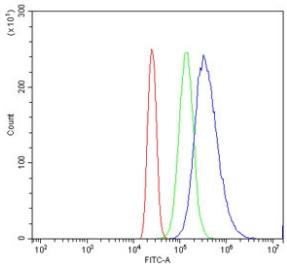
Meiotic Recombination 11 Antibody Mouse Colon IHC. Immunohistochemical staining of FFPE mouse colon tissue using Meiotic Recombination 11 antibody demonstrated predominantly nuclear staining in colonic epithelial cells, consistent with the localization of MRE11 as a core component of the MRN complex involved in DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to staining. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, intestinal biology, and MRN complex function.



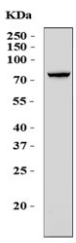
Meiotic Recombination 11 Antibody Rat Colon IHC. Immunohistochemical staining of FFPE rat colon tissue using Meiotic Recombination 11 antibody demonstrated predominantly nuclear staining in colonic epithelial cells, consistent with the localization of MRE11 as a key component of the MRN complex responsible for DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by boiling tissue sections in pH 8 EDTA buffer for 20 minutes followed by cooling prior to staining. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, intestinal biology, and MRN complex function.



Meiotic Recombination 11 Antibody Human Breast Cancer Cell IF. Immunofluorescent staining of T-47D cells using Meiotic Recombination 11 antibody demonstrated strong nuclear fluorescence (green), consistent with the localization of MRE11 as a core component of the MRN complex responsible for DNA double-strand break recognition and repair. Heat-induced epitope retrieval was performed by steaming in pH 6 citrate buffer for 20 minutes prior to staining. Nuclei were counterstained with DAPI (blue). This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, MRN complex biology, and breast cancer research.



Meiotic Recombination 11 Antibody Human Promyelocytic Leukemia Cell FACS. Flow cytometry analysis of fixed and permeabilized human HL60 cells using Meiotic Recombination 11 antibody demonstrated a clear rightward shift of the stained cell population (blue) relative to the isotype control (green), indicating specific intracellular detection of MRE11. Cells alone served as the blank control (red), and cells were blocked with goat serum prior to staining. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating genome stability, DNA damage response signaling, MRN complex biology, and hematologic cancer research.



Meiotic Recombination 11 Antibody Human Leukemia Cell WB. Western blot testing of human K562 cell lysate using Meiotic Recombination 11 antibody detected a single band at approximately 81 kDa, consistent with the predicted molecular weight of MRE11. This Meiotic Recombination 11 Antibody, also called an MRE11 Antibody, is useful for investigating DNA double-strand break repair, genome stability, MRN complex biology, and DNA damage response signaling.

Description

Meiotic Recombination 11 Antibody / MRE11 Antibody recognizes MRE11, a highly conserved nuclease that functions as an essential component of the MRE11-RAD50-NBN (MRN) complex. MRE11 possesses both endonuclease and exonuclease activities that initiate processing of DNA double-strand breaks, enabling accurate repair through homologous recombination and contributing to non-homologous end joining. Although originally identified through its role in meiotic

recombination, MRE11 is now recognized as a fundamental regulator of genome maintenance in both dividing and non-dividing cells. Its highly conserved function makes it indispensable for preserving chromosomal integrity following endogenous and environmental DNA damage.

Meiotic Recombination 11 participates in the earliest stages of the cellular DNA damage response by recognizing DNA double-strand breaks and recruiting signaling proteins, including the ATM kinase, to sites of damage. Activation of the MRN complex coordinates cell cycle checkpoint signaling, chromatin remodeling, DNA end resection, replication fork recovery, telomere maintenance, and apoptosis. These integrated activities ensure efficient repair of damaged chromosomes while preventing the accumulation of genomic instability that can promote malignant transformation or cellular dysfunction.

Pathogenic variants in MRE11A are responsible for ataxia-telangiectasia-like disorder, a rare inherited syndrome characterized by defective DNA repair, radiosensitivity, progressive neurodegeneration, and chromosome instability. Altered expression or activity of MRE11 has also been associated with numerous cancers, including breast, colorectal, ovarian, prostate, and lung tumors, where deficiencies in DNA repair influence disease progression and therapeutic responses. Consequently, MRE11 has become an important biomarker for studies of genome stability, DNA damage signaling, and targeted cancer therapies.

This rabbit polyclonal antibody was developed for specific detection of MRE11 in research applications. Its broad reactivity with human, mouse, and rat samples makes it well suited for investigations of DNA repair mechanisms, chromosome maintenance, genome stability, and cancer biology. A Meiotic Recombination 11 Antibody is a valuable research tool for investigating MRE11, DNA double-strand break repair, MRN complex function, genome stability, and DNA damage response signaling.

For a broader overview of MRE11 biology, DNA double-strand break repair, and MRN complex function, see our MRE11 Antibody / DNA Double-Strand Break Repair Protein Antibody page.

Application Notes

Optimal dilution of the Meiotic Recombination 11 Antibody / MRE11 Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids K14-T481) was used as the immunogen for the Meiotic Recombination 11 Antibody.

Storage

After reconstitution, the Meiotic Recombination 11 Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Meiotic Recombination 11 antibody, MRE11 antibody, MRE11 Homolog antibody, MRE11A antibody

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