**Intended Use:** For Research Use Only

**Description:** Double-strand break repair protein MRE11 is a multifunctional protein that forms a MRE11-NBS1-RAD50 (M-N-R) complex in response to DNA damage. MRE11 is required for the correct assembly of the M-N-R complex, which plays a crucial role in activating cell cycle checkpoints and localizes at sites which DNA is undergoing repair. Mutations in MRE11 is linked with the Ataxia-Telangiectasia-like disorder (AT-LD), and recently implicated to predispose to cancer via inactivation of the M-N-R complex. While nuclear MRE11 staining is nearly ubiquitous in normal tissues, MRE11 mutations have been frequently identified in microsatellite instability (MSI) tumors, characteristic of mutations in the defective mismatch repair (MMR) system. MMR-defective cells progressively accumulate replication errors which may cause inactivation of potential tumor suppressor gene, leading to cancer progression. Several immunohistochemistry studies have reported the loss of MRE11 expression ranging from 50-83% in MSI and MMR-deficient colorectal, gastric, bladder, and endometrial cancers. Reduced or loss of MRE11 protein expression is an independent factor associated with worse cancer survival.

**Specifications**
- **Clone:** EP318
- **Source:** Rabbit
- **Isotype:** IgG
- **Reactivity:** Human
- **Localization:** Nucleus
- **Formulation:** Antibody in PBS pH7.5, containing 0.2% BSA and <0.1% sodium azide (NaN3)
- **Storage:** Store at 2°- 8°C
- **Applications:** IHC

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<thead>
<tr>
<th>Description</th>
<th>Catalog No.</th>
<th>Size</th>
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<tbody>
<tr>
<td>MRE11 Concentrated</td>
<td>RM0383</td>
<td>1 ml</td>
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**IHC Procedure**
- **Positive Control:** Colon
- **Concentrated Dilution:** 50-200
- **Pretreatment:** Citrate pH6.0 or EDTA pH8.0, 15 minutes using Pressure Cooker, or 30-60 minutes using water bath at 95°-99°C
- **Incubation Time and Temp:** 30-60 minutes @ RT
- **Detection:** Refer to the detection system manual

*Result should be confirmed by an established diagnostic procedure.*

![FFPE human colon stained with anti-MRE11 using DAB](image)

**References:**