Human Phospho-ATM (S1981) Antibody

Recombinant Monoclonal Rabbit IgG Clone # 1163B
Catalog Number: MAB22902

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human ATM when phosphorylated at S1981.
Source	Recombinant Monoclonal Rabbit IgG Clone # 1163B
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Phosphopeptide containing the human ATM S1981 site
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

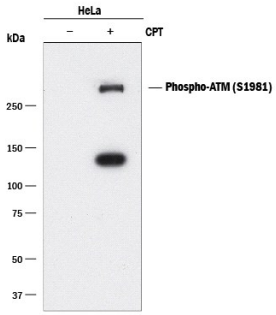
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below

DATA

Western Blot



Detection of Human Phospho-ATM (S1981) by Western Blot. Western blot shows lysates of HeLa human cervical epithelial carcinoma cell line untreated (-) or treated (+) with 1 µM Camptothecin (CPT) for 5 hours. PVDF membrane was probed with 2 µg/mL of Rabbit Anti-Human Phospho-ATM (S1981) Monoclonal Antibody (Catalog # MAB22902) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for phospho-ATM (S1981) at approximately 300 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

ATM (Ataxia Telangiectasia Mutated) is a 350-370 kDa member of the ATM subfamily, PI3/PI4-kinase family of enzymes. It is ubiquitously expressed and serves as a DNA damage sensor. ATM is activated via autophosphorylation in response to double strand DNA breaks. Activated ATM phosphorylates multiple substrates including Chk2, and it recruits ATR to form part of an integrated repair circuit. Human ATM is 3056 amino acids (aa) in length. It contains one FAT (focal adhesion targeting) domain (aa 1960-2566), a PI-3/PI-4 kinase catalytic domain (aa 2712-2962) and a second C-terminal FAT domain (aa 3024-3056). There are at least six Ser and four Thr utilized phosphorylation sites, and one critical acetylation activation site at Lys3016. Phosphorylation of Ser1981 is important for substrate recognition by ATM. There are at least four potential splice variants. One shows a Trp substitution for aa 536-3056, a second contains an eight aa substitution for aa 2506-3056, a third possesses a five aa substitution for aa 1637-3056, while a fourth contains a premature truncation after Lys2756. Over aa 1974-1987, human ATM shares 79% aa identity with mouse ATM.

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