abcam

Product datasheet

Human MDC1 (phospho T4) peptide ab36513

1 Image

Description

Product name	Human MDC1 (phospho T4) peptide
Purity	> 70 % HPLC. 70 - 90% by HPLC
Animal free	No
Nature	Synthetic
Species	Human

Specifications

Our Abpromise guarantee covers the use of **ab36513** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	Blocking
Form	Lyophilized
Additional notes	*- First try to dissolve a small amount of peptide in either water or buffer. The more charged residues on a peptide, the more soluble it is in aqueous solutions.* *- If the peptide doesn't dissolve try an organic solvent e.g. DMSO, then dilute using water or buffer.* *- Consider that any solvent used must be compatible with your assay. If a peptide does not dissolve and you need to recover it, lyophilise to remove the solvent.* *- Gentle warming and sonication can effectively aid peptide solubilisation. If the solution is cloudy or has gelled the peptide may be in suspension rather than solubilised.* *- Peptides containing cysteine are easily oxidised, so should be prepared in solution just prior to use.*

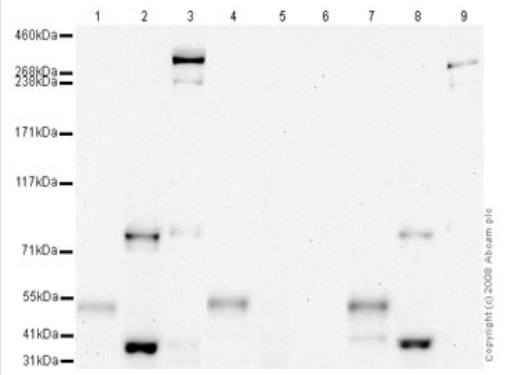
Preparation and Storage

Stability and Storage	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles. Information available upon request.

General Info

Function	Required for checkpoint mediated cell cycle arrest in response to DNA damage within both the S phase and G2/M phases of the cell cycle. May serve as a scaffold for the recruitment of DNA repair and signal transduction proteins to discrete foci of DNA damage marked by 'Ser-139' phosphorylation of histone H2AFX. Also required for downstream events subsequent to the recruitment of these proteins. These include phosphorylation and activation of the ATM, CHEK1/CHK1 and CHEK2/CHK2/CDS1 kinases, and stabilization of TP53 and apoptosis. ATM and CHEK2 may also be activated independently by a parallel pathway mediated by TP53BP1.
Tissue specificity	Highly expressed in testis.
Sequence similarities	Contains 2 BRCT domains. Contains 1 FHA domain.
Domain	Tandemly repeated BRCT domains are characteristic of proteins involved in DNA damage signaling. In MDC1, these repeats are required for localization to chromatin which flanks sites of DNA damage marked by 'Ser-139' phosphorylation of H2AFX.
Post-translational modifications	Phosphorylated upon exposure to ionizing radiation (IR), ultraviolet radiation (UV), and hydroxyurea (HU). Phosphorylation in response to IR requires ATM, NBN, and possibly CHEK2. Also phosphorylated during the G2/M phase of the cell cycle and during activation of the mitotic spindle checkpoint.
Cellular localization	Nucleus. Associated with chromatin. Relocalizes to discrete nuclear foci following DNA damage, this requires 'Ser-139' phosphorylation of H2AFX. Colocalizes with APTX at sites of DNA double-strand breaks.

Images



Western blot - Human MDC1 (phospho T4) peptide (ab36513)

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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