

## AbFlex<sup>®</sup> ATM phospho Ser1981 antibody (rAb)

**Catalog Nos:** 91207, 91208

**RRID:** AB\_2793804

**Isotype:** IgG2a

**Application(s):** DB, WB

**Reactivity:** Human, Mouse

**Quantities:** 100 µg, 10 µg

**Purification:** Protein A Chromatography

**Host:** Mouse

**Concentration:** 1 µg/µl

**Molecular Weight:** 370 kDa

**Background:** AbFlex<sup>®</sup> antibodies are recombinant antibodies (rAbs) that have been generated using defined DNA sequences to produce highly specific, reproducible antibodies. Each AbFlex antibody contains a 6xHis Tag, a Biotinylation Tag for enzymatic biotin conjugation using the biotin ligase, BirA, and a sortase recognition motif (LPXTG) to attach a variety of labels directly to the antibody including fluorophores, enzymatic substrates (HRP, AP), peptides, drugs as well as solid supports. ATM – Ataxia Telangiectasia Mutated is a PI3-family protein kinase and a critical cell cycle checkpoint protein. ATM and a related protein, ATR, play crucial roles in the maintenance of genome integrity and the response to DNA damage. Upon activation, ATM phosphorylates itself at serine 1981 and then phosphorylates a number of downstream proteins (e.g. BRCA1, CHK2, H2AX, p53, NBS1, SMC1) resulting in cell cycle arrest and the initiation of DNA damage repair. Loss of function of ATM is causal to a variety of syndromes involving increased incidence of several cancers.

**Immunogen:** This antibody was raised against A peptide surrounding phosph-serine 1981 of human ATM (Ataxia telangiectasia mutated).

**Buffer:** Purified IgG in 140 mM Hepes, pH 7.5, 70 mM NaCl, 32 mM NaOAc, 0.035% sodium azide, 30% glycerol. Sodium azide is highly toxic.

### Application Notes:

Applications Validated by Active Motif:

WB\*: 0.5 - 2 µg/ml

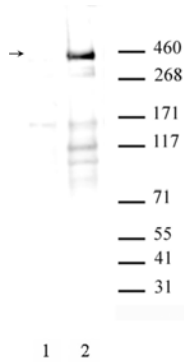
DB: 0.5 - 1 µg/ml

\*Note: many chromatin-bound proteins are not soluble in a low salt nuclear extract and fractionate to the pellet. Therefore, we recommend a High Salt / Sonication Protocol when preparing nuclear extracts for Western Blot. For optimal results, primary antibody incubations should be performed at room temperature. The addition of 0.1% Tween 20 to all blocking solutions may also reduce background. Individual optimization may be required.

AbFlex<sup>®</sup> recombinant antibodies are genetically derived from DNA sequences of parental hybridoma clones. For details on the parental clone, see Catalog No. 39529.

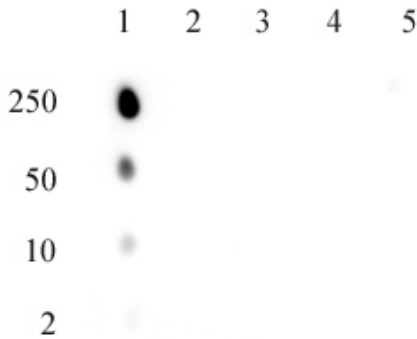
**Storage and Guarantee:** Some products may be shipped at room temperature. This will not affect their stability or performance. Avoid repeated freeze/thaw cycles by aliquoting items into single-use fractions for storage at -20°C for up to 2 years. Keep all reagents on ice when not in storage. This product is guaranteed for 12 months from date of receipt.

This product is for research use only and is not for use in diagnostic procedures.



AbFlex® ATM phospho Ser1981 antibody (rAb) tested by Western blot. 20 μg HeLa nuclear extract (high salt preparation) untreated (lane 1) or treated with VP16 at 100 μM for 8 hrs (Lane 2), probed with 1 μg/ml ATM phospho Ser1981 antibody.

For optimal results, primary antibody incubations should be performed at room temperature. The addition of 0.1% Tween 20 to all Blotto solutions may also reduce background. Individual optimization may be required.



#### AbFlex® ATM phospho Ser1981 antibody specificity

Dot blot analysis was used to confirm the specificity of ATM phospho Ser1981 antibody. Single-stranded DNA oligonucleotides (amount of oligo in nanograms listed on the left side of the blot) were spotted on to a positively charged nylon membrane and blotted with antibody (0.5 μg/ml dilution).

- 1: ATM phospho serine 1981 (SLAFEEG(Sph)QSTTISS)
- 2: H2AX phospho serine 139 (CKATQA[Sph]QEY)
- 3: ATM unmodified serine 1981 (SLAFEEGSQSTTISS)
- 4: NBS phospho serine 343 (CPGPSL[Sph]QGVS)
- 5: BRCA1 phospho serine 1423 (LEQHG[Sph]QSNCS)