

Catalog No. LF-PA0025

Polyclonal antibody



## Anti-p-H2AX(Ser139)

**Background :** Histone H2A is one of the 5 main histone proteins involved in the structure of chromatin in eukaryotic cells. The nucleosome in which an 147 base-pairs of DNA are wrapped 1.7 times around a central core of eight histone protein molecules forms the basic building block of chromatin. Histone octamer consists of two copies each of H2A, H2B, H3, and H4 histones.

Histone H2A variant H2AX, a component of the nucleosome core structure that comprises 10%–15% of total cellular H2A, has a special role in DNA repair, cell cycle checkpoints, regulated gene recombination events, and tumor suppression.

H2AX can be phosphorylated on Ser 1, acetylated on Lys 5 and ubiquitinated on Lys 119. But what makes H2AX unique is a highly conserved serine 139 residue which is rapidly phosphorylated upon the exposure of cells to DNA damage. H2AX is phosphorylated by ATR in response to DNA replication stress, and primarily by ATM in response to low levels of ionizing radiation. Phosphorylation of H2AX increases the likelihood of assembling a functional repair complex by increasing the local concentration of repair factors near the lesion.

**Immunogen :** Synthetic peptide

**Host :** Rabbit

**Type :** Purified

**Isotype :** IgG

**Size :** 100µl

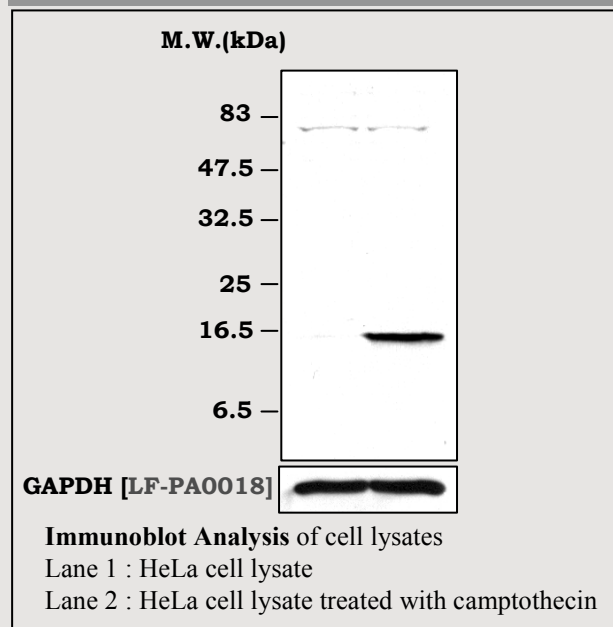
**Compositon :** Hepes with 0.15M NaCl, 0.01% BSA, 0.03% sodium azide, and 50% glycerol

**Positive control :** HeLa cell lysate treated with camptothecin

**Storage :** Store for 1 year at -20°C from date of shipment

### Species cross reactivity

Human +	Mouse NT	Rat NT
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### Applications :

Western blotting (1:5,000)

### Background Reference :

- 1) Stucki M, Clapperton JA, Mohammad D, Yaffe MB, Smerdon SJ and Jackson SP, 2005, *Cell*. 123(7):1213-1226
- 2) Fernandez-Capetillo O, Lee A, Nussenzweig M and Nussenzweig A., 2004, *DNA Repair (Amst)*. 3(8-9):959-967
- 3) Emmy P. Rogakou, Duane R. Pilch, Ann H. Orr, Vessela S. Ivanova, and William M. Bonner, 1998, *J Biol Chem*. 273(10):5858-5868