

# Phospho-Estrogen Receptor $\alpha$ (Ser118) (16J4) Mouse mAb

✓ 100  $\mu$ l  
(10 western blots)

**Orders** ■ 877-616-CELL (2355)  
orders@cellsignal.com  
**Support** ■ 877-678-TECH (8324)  
info@cellsignal.com  
**Web** ■ www.cellsignal.com

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IHC-P Endogenous	H	66 kDa	Mouse IgG2b**

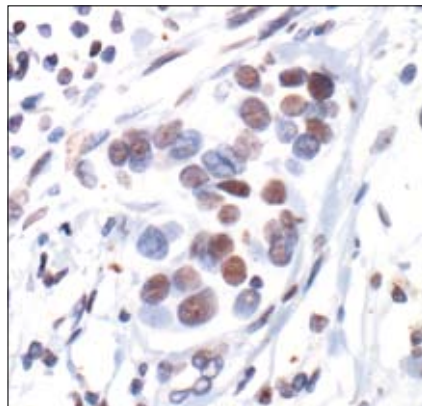
**Background:** Estrogen receptor  $\alpha$  (ER  $\alpha$ ), a member of the steroid receptor superfamily, contains highly conserved DNA binding (DBD) and ligand binding domains (LBD) (1). Through its estrogen-independent and estrogen-dependent activation domains (AF-1 and AF-2, respectively), ER  $\alpha$  regulates transcription by recruiting coactivator proteins and interacting with general transcriptional machinery (2). Phosphorylation provides an important mechanism to regulate ER  $\alpha$  activity (3,4). ER  $\alpha$  is phosphorylated on multiple sites (5). Serines 104, 106, 118 and 167 are located in the amino-terminal transcription activation function domain AF-1, and phosphorylation of these serines plays an important role in regulating ER  $\alpha$  activity. Ser118 may be the substrate of the transcription regulatory kinase cdk7 (5). Ser167 may be phosphorylated by p90RSK and Akt (4,6). Phosphorylation of Ser167 may confer tamoxifen resistance in breast cancer patients (4).

**Specificity/Sensitivity:** Phospho-Estrogen Receptor  $\alpha$  (Ser118) (16J4) Mouse mAb detects endogenous levels of estrogen receptor  $\alpha$  only when phosphorylated at Ser118. It does not cross-react with phosphorylated estrogen receptor  $\beta$ .

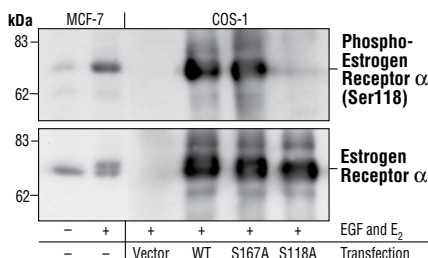
**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser118 of human ER  $\alpha$ .

#### Background References:

- Mangelsdorf, D.J. et al. (1995) *Cell* 83, 835–839.
- Glass, C.K. and Rosenfeld, M.G. (2000) *Genes Dev.* 14, 121–141.
- Chen, D. et al. (1999) *Mol. Cell. Biol.* 19, 1002–1015.
- Campbell, R.A. et al. (2001) *J. Biol. Chem.* 276, 9817–9824.
- Chen, D. et al. (2000) *Mol. Cell* 6, 127–137.
- Joel, P.B. et al. (1998) *Mol. Cell. Biol.* 18, 1978–1984.



Immunohistochemical staining of phosphorylated estrogen receptor  $\alpha$  in paraffin-embedded human breast carcinoma showing nuclear localization using Phospho-Estrogen Receptor  $\alpha$  (Ser118) (16J4) Mouse mAb.



Western blot analysis of extracts from untransfected MCF-7 cells, and COS-1 cells transfected with wild-type or mutant ER  $\alpha$ , stimulated with EGF and E<sub>2</sub> using Phospho-Estrogen Receptor  $\alpha$  (Ser118) (16J4) Mouse mAb (upper) or control estrogen receptor  $\alpha$  antibody #2512 (lower).

Entrez-Gene ID #2099  
Swiss-Prot Acc. #P03372

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100  $\mu$ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

\*Species cross-reactivity is determined by western blot.

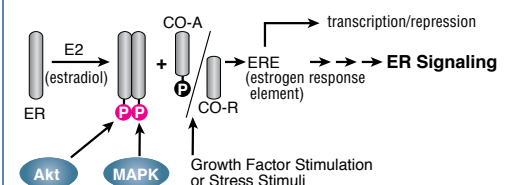
\*\*Anti-mouse secondary antibodies must be used to detect this antibody.

#### Recommended Antibody Dilutions:

Western Blotting	1:1000
Immunohistochemistry (Paraffin)	1:50
Unmasking buffer:	Citrate
Antibody diluent:	PBST-5% NGS

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.



**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.**

**Applications Key:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide  
**Species Cross-Reactivity Key:** H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine  
Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.