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#49757

# Estrogen Receptor $\alpha$ Activation Antibody Sampler Kit



Cell Signaling  
TECHNOLOGY®

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New 10/20

**For Research Use Only. Not For Use In Diagnostic Procedures.**

Products Included	Product #	Quantity	Mol. Wt.	Isotype/Source
Estrogen Receptor $\alpha$ (D8H8) Rabbit mAb	8644	20 $\mu$ l	66 kDa	Rabbit IgG
Phospho-Estrogen Receptor $\alpha$ (Ser118) (16J4) Mouse mAb	2511	20 $\mu$ l	66 kDa	Mouse IgG2b
Phospho-Estrogen Receptor $\alpha$ (Ser167) (D5W3Z) Rabbit mAb	64508	20 $\mu$ l	66 kDa	Rabbit IgG
Anti-rabbit IgG, HRP-linked Antibody	7074	100 $\mu$ l		Goat
Anti-mouse IgG, HRP-linked Antibody	7076	100 $\mu$ l		Horse

See [www.cellsignal.com](http://www.cellsignal.com) for individual component applications, species cross-reactivity, dilutions and additional application protocols.

**Description:** The Estrogen Receptor  $\alpha$  Activation Antibody Sampler Kit provides an economical means of detecting the activation of estrogen receptor  $\alpha$  using phospho-specific and control antibodies. This kit includes enough antibodies to perform two western blot experiments with each primary antibody.

**Background:** Estrogen receptor  $\alpha$  (ER $\alpha$ ), a member of the steroid receptor superfamily, contains highly conserved DNA binding and ligand binding domains (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 at multiple sites provides an important mechanism to regulate ER $\alpha$  activity (3-5). Ser104, 106, 118, and 167 are located in the amino-terminal transcription activation function domain AF-1, and phosphorylation of these serine residues 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). According to the research literature, phosphorylation at Ser167 may confer tamoxifen resistance in breast cancer patients (4).

**Specificity/Sensitivity:** Estrogen Receptor  $\alpha$  (D8H8) Rabbit mAb recognizes endogenous levels of total ER $\alpha$  protein. Phospho-Estrogen Receptor  $\alpha$  (Ser118) (16J4) Mouse mAb detects endogenous levels of ER $\alpha$  protein only when phosphorylated at Ser118. It does not cross-react with phosphorylated estrogen receptor  $\beta$ . Phospho-Estrogen Receptor  $\alpha$  (Ser167) (D5W3Z) Rabbit mAb recognizes endogenous levels of ER $\alpha$  protein only when phosphorylated at Ser167.

**Source/Purification:** Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues in the carboxy terminus of human ER $\alpha$  protein. Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser118 of human ER $\alpha$  protein. Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser167 of human ER $\alpha$  protein.

**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 antibodies.

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

#### Background References:

- (1) Mangelsdorf, D.J. et al. (1995) *Cell* 83, 835-9.
- (2) Glass, C.K. and Rosenfeld, M.G. (2000) *Genes Dev* 14, 121-41.
- (3) Chen, D. et al. (1999) *Mol Cell Biol* 19, 1002-15.
- (4) Campbell, R.A. et al. (2001) *J Biol Chem* 276, 9817-24.
- (5) Chen, D. et al. (2000) *Mol Cell* 6, 127-37.
- (6) Joel, P.B. et al. (1998) *Mol Cell Biol* 18, 1978-84.

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**Applications:** W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** 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.