Estrogen Receptor Phospho-Regulation

Antibody Sampler Kit

Cat. # EK6720
Size Kit

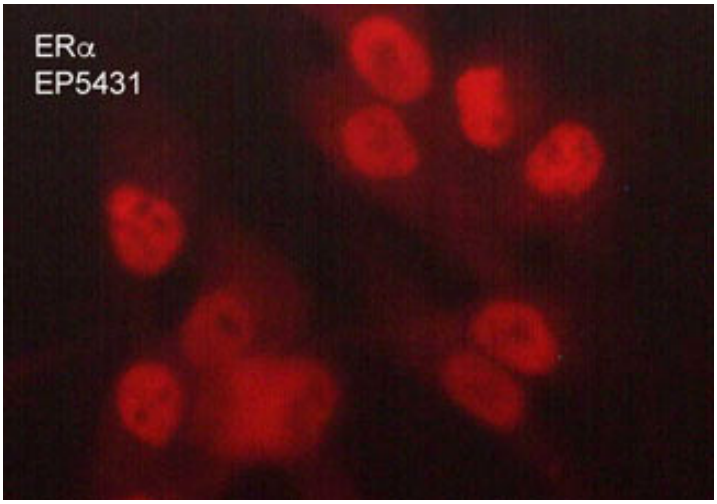
Kit Summary

The ERα Phospho-Regulation antibody sampler kit can be used to detect phosphorylation of Tyr-537 relative to total ERα expression levels. The kit includes mouse monoclonal and rabbit polyclonal antibodies to detect phospho-Tyr-537, as well as a rabbit polyclonal antibody to detect ERα. The kit also includes anti-Rabbit Light Chain specific:HRP and anti-Mouse Ig specific:HRP secondary reagents for detection of antibodies in Western blot, ELISA, or immunocytochemistry.

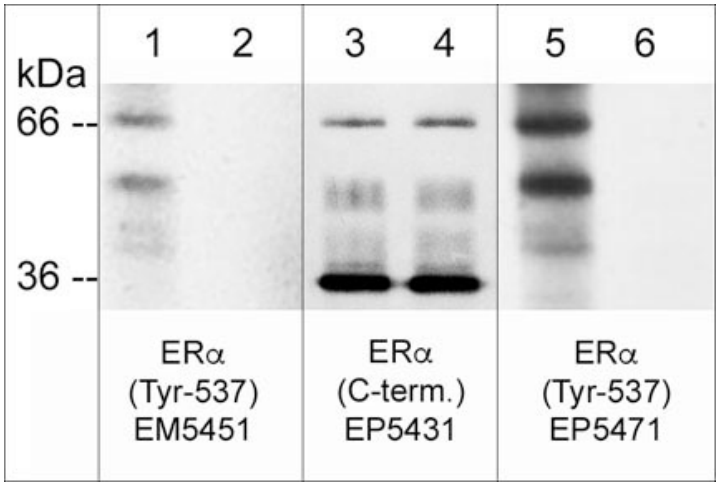
Kit Components

Cat. #	Description	Product Type	Size	Applications	Species Reactivity	WB Dilution
EP5431	Estrogen Receptor α (C-terminus)	Rabbit pAb	50 µl	WB, E, IP, ICC	Hu, Rt, Ms	1:500
EP5471	Estrogen Receptor α (Tyr-537), phospho-specific	Rabbit pAb	50 µl	WB, E	Hu, Rt, Ms, Ck, Fr	1:1000
EM5451	Estrogen Receptor α (Tyr-537), phospho-specific	Mouse mAb	50 µl	WB, E	Hu, Rt, Ms, Ck, Fr	1:1000
MS3001	Anti-Mouse Ig:HRP	Donkey pAb	100 µl	WB, E	Ms	1:5000
RS3251	Anti-Rabbit Ig Light-Chain Specific:HRP	Mouse mAb	100 µl	WB, E, ICC, IHC	Rb	1:5000

Applications: WB = Western blot, E = ELISA, ICC = Immunocytochemistry, IP = Immunoprecipitation, IHC = Immunohistochemistry, FC = Flow Cytometry
Species: H = Human, R = Rat, Ms = Mouse, C = Chicken, F = Fish, Fr = Frog, Rb = Rabbit



Immunocytochemical labeling of Estrogen Receptor α in paraformaldehyde fixed and NP-40 permeabilized MDA-MB-231 cells. The cells were labeled with rabbit polyclonal anti-Estrogen Receptor α (EP5431). The antibody was detected using goat anti-rabbit DyLight® 594.



Western blot image of human MCF-7 cells treated with pervanadate (1 mM) for 30 min. (lanes 1-6). Some lanes of the blot were then treated with alkaline phosphatase (lanes 2, 4, & 6). The blot was probed with mouse monoclonal anti-ERα (Tyr-537) phospho-specific (lanes 1 & 2), rabbit polyclonal anti-ERα (C-terminus) (lanes 3 & 4), and rabbit polyclonal anti-ERα (Tyr-537) phospho-specific (lanes 5 & 6).

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Background

Estrogen receptor α (ERα) is a member of the steroid receptor superfamily and its structure includes an N-terminal ligand-independent transactivation domain (AF-1), a highly conserved DNA binding domain, and a C-terminal ligand-dependent transactivation domain (AF-2). AF-1 and AF-2 activate transcription independently and synergistically, and act in a promoter- and cell-specific manner. Phosphorylation at multiple sites provides an important mechanism to regulate ERα activity. Ser-104, Ser-106, Ser-118, and Ser-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 ERα activity. In addition to these sites, phosphorylation of Tyr-537 has been implicated in maximal hormone binding, dimerization, and transcriptional activity. Tyr-537, located in the AF-2 domain, is phosphorylated by c-Src leading to nuclear export of ERα and degradation. Thus, a variety of phosphorylation events control ERα activity.

Background References

Castoria, G. et al. (2012) Oncogene. 31:4868.

Anbalagan M, Rowan BG (2015) Mol Cell Endocrin. 418(3):264.

Buffer and Storage

Primary antibodies are supplied in phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. The secondary reagents are supplied in the same buffer without azide. Store all at –20°C. Stable for 1 year.

Product Citations

Cat. #	Citation & Application
MS3001	Estrada-Bernal, A. et al. (2011) J Neurooncol. 102:353. (Western blot: MDCK epithelial, A549, and HEK293
RS3251	Kawasaki, H. et al. (2013) World J Gastroenter. 19(17):2629. (WB, ICC: mouse intestinal myofibroblasts and
RS3251	Estrada-Bernal, A. et al. (2011) J Neurooncol. 102:353. (Western blot)

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