

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human ER $\alpha$ /NR3A1 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant ER $\beta$ /NR3A2 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>3</sub> Clone # 585112
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human ER $\alpha$ /NR3A1 Met1-Ser116 (predicted) Accession # P03372
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in TBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 $\mu$ m filtered solution in PBS.

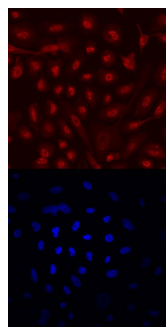
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Immunocytochemistry</b>	8-25 $\mu$ g/mL	See Below

## DATA

### Immunocytochemistry



**ER $\alpha$ /NR3A1 in PC-3 Human Cell Line.** ER $\alpha$ /NR3A1 was detected in immersion fixed PC-3 human prostate cancer cell line using Mouse Anti-Human ER $\alpha$ /NR3A1 Monoclonal Antibody (Catalog # MAB5715) at 10  $\mu$ g/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red, upper panel; Catalog # NL007) and counterstained with DAPI (blue, lower panel). Specific staining was localized to nuclei. View our protocol for [Fluorescent ICC Staining of Cells on Coverslips](#).

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Sterile PBS to a final concentration of 0.5 mg/mL.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
<b>Stability &amp; Storage</b>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

ER $\alpha$  (Estrogen receptor alpha; also Estradiol receptor and NR3A1) is a 65-70 kDa member of the NR3 subfamily, nuclear hormone receptor family of proteins. It is widely expressed, and serves as a strong activator of estrogen-responsive genes. ER $\alpha$  is normally quiescent and bound to heat-shock proteins and immunophilins. Following  $\beta$ -estradiol binding, it becomes activated, either homodimerizes or heterodimerizes with ER $\beta$ , and binds to DNA with multiple coactivators. Human ER $\alpha$  is 595 amino acids (aa) in length. It contains a DNA binding region (aa 185-250), three NLSs (aa 256-260; 266-271; 299-303), a steroid-binding site (aa 351-543), a dimerization motif (aa 497-518), and an O-GlcNAc attachment around Thr575. Major phosphorylation sites exist at Tyr537, Ser167 and Ser118. Multiple splice forms exist. There is an 80 kDa isoform that shows a substitution (duplication) of aa 412-517 for Asp411, a second isoform with a deletion of aa 255-366, a third isoform with a deletion of aa 152-412, and a fourth isoform that shows a Thr substitution for aa 152-595. Human ER $\alpha$  is only 46% aa identical to human ER $\beta$ . Over aa 1-116, human ER $\alpha$  shares 85% aa identity with mouse ER $\alpha$ .