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Datasheet for ABIN2746587

## Estrogen Receptor alpha Protein

### Overview

Quantity:	5 applications
Target:	Estrogen Receptor alpha (ESR1)
Origin:	Human, Rat
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Application:	Western Blotting (WB), Positive Control (PC)

### Product Details

Purpose:	Purified Protein in ready-to-use SDS sample buffer.
Purification:	Purified Protein

### Target Details

Target:	Estrogen Receptor alpha (ESR1)
Alternative Name:	Estrogen Receptor alpha ( <a href="#">ESR1 Products</a> )
Background:	<p>Estrogen, a steroid hormone, is a key regulator of growth and differentiation in a broad range of target tissues and, it is also implicated in breast and endometrial cancer and osteoporosis. Like all steroid hormones, estrogen readily diffuses across cell membrane and binds to and activates estrogen receptors (<math>\alpha</math> and <math>\beta</math>) which then up-regulate the expression of many genes. These receptors belong to the superfamily of nuclear receptors, more specifically to the family of steroid receptors that act as ligand-regulated transcription factors. The estrogen receptor (ER) is a key molecule for growth of breast cancers and is a successful target for treatment of breast cancers. Estrogen receptors mediate the pleiotropic effects of the steroid hormone</p>

## Target Details

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estrogen on the growth, development and maintenance of a diverse range of tissues. Like other steroid hormone receptors, Estrogen Receptors are intracellular proteins which play an important role in regulating mammary gland growth and differentiation. ER positive breast tumors show a more favorable response to anti-estrogen therapies. There are two mammalian ERs (ER $\alpha$  and ER $\beta$ ) which exhibit modular structures characteristic of the nuclear receptor superfamily. ER alpha generally functions as an activator of transcription while ER beta functions as a repressor. Estrogen Receptor alpha is a 65 kDa protein and a member of the steroid family of nuclear receptors. Estrogen Receptor alpha is a ligand-activated transcription factor that, when bound to estrogen, induces a conformational change allowing dimerization and binding to estrogen response element sequences. When bound to DNA, Estrogen Receptor alpha positively or negatively regulates gene transcription. ER $\alpha$  is a key regulator of mitochondrial function and metabolism essential for energy-driven cellular processes in both normal and cancer cells. It also mediates bone-derived macrophage activation by proinflammatory cytokines. Loss of ER $\alpha$  accelerates the development of diethyl nitrosamine (DEN)-induced hepatocellular carcinoma by promoting hepatocyte necrosis over apoptosis in response to DEN due to a deficiency in energy production. Breast cancer therapy is directed at inhibiting the transcriptional potency of ER $\alpha$ , either by blocking estrogen production through aromatase inhibitors or anti estrogens that compete for hormone binding. The gene for Estra is present on chromosome 6q25.1

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Molecular Weight: 71 kDa

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UniProt: [P03372](#)

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Pathways: [Nuclear Receptor Transcription Pathway](#), [EGFR Signaling Pathway](#), [Retinoic Acid Receptor Signaling Pathway](#), [Intracellular Steroid Hormone Receptor Signaling Pathway](#), [Steroid Hormone Mediated Signaling Pathway](#), [Ribonucleoprotein Complex Subunit Organization](#), [Ribosome Assembly](#)

## Application Details

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Application Notes: The sample is in ready-to-use buffer for application in SDS-PAGE and Western blotting.

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Comment: Synonyms: ER-alpha, ESR1, Estradiol receptor antibody, Nuclear receptor subfamily 3 group A member 1 antibody

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Restrictions: For Research Use only

## Handling

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Format:	Liquid
Buffer:	For 5 applications, volume varies from 100-200 $\mu$ L in reduced SDS-PAGE sample buffer.
Storage:	-20 $^{\circ}$ C
Storage Comment:	-20 $^{\circ}$ C for long term storage