

BACKGROUND

The steroid hormone estrogen plays a critical role in the regulation of growth and development of reproductive tissues. The effects of estrogen in these tissues are due to changes in gene expression modulated by the estrogen receptors (ERs). ERs are members of the nuclear hormone receptor superfamily of transcription factors. After being activated by binding estrogen, the ER activates transcription of hormone-responsive genes. ER family contains two members, ERalpha and ERbeta. The ERs contain two transcription activation domains, AF-1 located in the N-terminal A/B domain, and AF-2 located within the C-terminal ligand-binding domain. Although AF-2 function is dependent upon ligand binding, AF-1 functions independently of ligand binding, but synergizes with AF-2 in the promotion of ligand-dependent transcription activation by the receptor.¹ The ER can also be activated by ligand-independent pathways involving signals originating from growth factor receptors. This pathway involves signaling from cell surface receptors and results in phosphorylation of the estrogen receptor. Activation of ERalpha by epidermal growth factor was shown to involve phosphorylation of serine 118 in the AF-1 region of ERalpha through a Ras-Raf-MAPK signaling pathway.² The serine 106 of ERbeta was phosphorylated by a activated ErbB2/ErbB3 pathway, resulting selective hormone-dependent repression of estrogen receptor beta.³

References:

1. Driggers, P.H. et al. J. Biol. Chem., 276:46792, 2001.
2. Yamashita H et al: Breast Cancer Res. 7:R753, 2005.
3. St-Laurent V et al: J Steroid Biochem Mol Biol 94: 23, 2005.

TECHNICAL INFORMATION

Source: Anti-Phospho-Estrogen Receptor-beta (Ser106) is a rabbit polyclonal antibody raised against KLH-conjugated synthetic peptide containing phospho-Ser106 and surrounding sequence of human estrogen receptor-beta.

Specificity and Sensitivity: This antibody specifically detects endogenous levels of estrogen receptor-beta only when Ser106 is phosphorylated. This antibody does not cross-react with other ER-family proteins.

Storage Buffer: 0.1 M PBS (pH 7.2), 0.1% glycine, 0.1% sodium azide, 0.1% BSA, 50% glycerol.

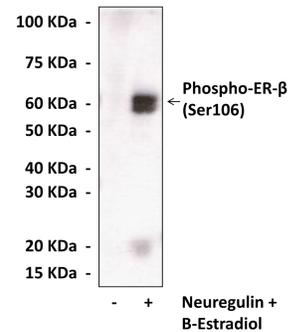
Storage: Store at -20°C, 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:1000
IP	n/d
IHC	n/d
ICC	n/d
FACS	n/d

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Specific detection of estrogen receptor-beta proteins containing phosphorylated Ser106 from T47D breast cancer cells stimulated with Neuregulin and beta-estradiol in Western blot using Phospho-Estrogen Receptor-beta (Ser106) Rabbit Polyclonal Antibody.

