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Product Information

ANTI-ESTROGEN RECEPTOR (18-32)

Developed in Rabbit
IgG Fraction of Antiserum

Product Number **E 0521**

Product Description

Anti-Estrogen Receptor (18-32) is developed in rabbit immunized using a synthetic peptide (Ile-Gln-Gly-Asn-Glu-Leu-Glu-Pro-Leu-Asn-Arg-Pro-Gln-Leu-Lys) conjugated to KLH as the immunogen. The peptide corresponds to amino acids 18-32 of the human estrogen receptor. The product is an IgG fraction prepared from pooled antisera by sodium sulfate precipitation and DEAE cellulose fractionation.

The primary action of steroid hormones is mediated by specific, saturable intracellular receptor proteins. Estrogens regulate the expression of target genes by binding to a receptor which interacts with specific promoter sequences and causes either transcriptional activation or repression of responsive genes.^{1,2,3} The human estrogen receptor (hER) is a 67 kDa protein the structure of which can be subdivided into six regions, A to F, on the basis of differing homology.^{4,5} The N-terminal A/B region contains a constitutive transcriptional activation function. Region C contains a central 66-68 amino acid sequence, rich in cysteine and basic residues, involved in specific recognition and binding to the cognate-responsive DNA elements of target genes. It is very highly conserved between species. Region D, which is highly divergent, contributes to formation of 8S complex and to nuclear localization. The highly conserved Region E, near the C-terminus, binds the hormone and activates transcription in a hormone-inducible manner. The human estrogen receptor preexists in hormone-responsive target cells in a non-activated, non-DNA binding state as a complex structure also containing p59 and hsp90.⁶ The activated receptor, stripped from the associated proteins, binds to DNA as a homo and heterodimer. Virtually all steroid-occupied and unoccupied estrogen receptors appear to be localized in the cell nucleus. They are normally distributed in the epithelial elements of the human breast, vagina, endocervix, endometrium, fallopian tube and focally in the ovary. Estrogen receptors are also detectable in the stromal cells of the lamina propria and in smooth muscle cells of the muscularis of the human female genital tract.^{7,8} In addition, they are also found in nuclei of animal brain

neurons and anterior pituitary cells. Estrogen receptors are demonstrable in mammary carcinomas, endometrial tumors, and ovarian epithelial tumors in females, and in Leydig cell tumors in males. Antibodies to estrogen receptor are applicable in immunochemical detection and quantification of the receptor regardless of ligand dissociation from the receptor-ligand complex. Antibodies to short defined amino acid sequences, from different domains are also potentially useful in detection of truncated estrogen receptors.

Reagents

The product is provided as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 0.1% sodium azide as a preservative.

Precautions and Disclaimer

Due to the sodium azide content a material safety sheet (MSDS) for this product has been sent to the attention of the safety officer of your institution. Consult the MSDS for information regarding hazardous and safe handling practices.

Storage/Stability

For extended storage freeze in working aliquots. For continuous use, store at 2-8 °C. Repeated freezing and thawing is not recommended. Storage in "frost-free" freezers is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use.

Product Profile

Anti-Estrogen Receptor (18-32) reacts with a 67 kDa protein in extracts of human mammary carcinoma cultured cell line (MCF-7) using immunoblotting. Specific staining in immunoblotting is inhibited following preincubation of the diluted antibody with the specific peptide.

Anti-Estrogen Receptor (18-32) may be used in various immunoassays including dot blot immunoassay and immunoblotting.

In order to obtain best results, it is recommended that each user determine the optimal working dilution for individual applications by titration assay.

References

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