

Product Information

Estrogen Receptor- α , human recombinant, expressed in insect cells

Catalog Number **E1528**

Storage Temperature -70°C

Product Description

Estrogen receptor- α is a hormone-inducible transcription factor that can act positively or negatively in regulating genes involved in tissue growth and differentiation. In response to ligand binding, estrogen receptor is activated by conformational changes and the dissociation of various proteins including hsp90 and hsp70, resulting in a ligand-occupied estrogen receptor dimer.^{1,2}

Two mechanisms may mediate the stimulation of target gene expression by the ligand-bound receptor. The first is 'direct binding'; whereby, the ligand-bound receptor binds directly to a specific DNA sequence, the estrogen response element (ERE), and directly enhances transcription by interacting with coactivator proteins and components of the RNA polymerase II transcription complex.^{3,4} The ERE has the sequence: 5'-GGTCAnnnTGACC-3', where n is any nucleotide.⁵ In the second mechanism, termed 'tethering', estrogen receptor does not bind DNA directly, but rather interacts with another DNA-bound transcription factor in such a way as to stabilize its DNA binding and/or recruit coactivators to the complex.⁶

Estrogen receptor- α has been shown to induce the Erg-1 promoter via the SREs in cardiomyocytes.⁷ The 17 β -estradiol/estrogen receptor- α signaling system is also necessary for maintenance of normal postnatal function of the thymus in male and female mice.⁸ Estrogen receptor- α is also associated with the expression of c-erbB-4 in estrogen signal transduction in breast carcinomas⁹ and it couples to G α_i after eNOS stimulation by 17 β -estradiol to initiate signal transduction at the cell surface in COS-7 transfected cells.¹⁰

Recombinant Human Estrogen Receptor- α is produced as an active, soluble 66.4 kDa protein by a baculovirus expression system. It possesses post-translational modifications similar to those found in mammalian cells. It is supplied in 50 mM Tris-HCl, pH 8.0, 500 mM KCl, 2 mM DTT, 1 mM EDTA, 1 mM sodium orthovanadate, and 10% glycerol.

Purity: $\geq 80\%$ (SDS-PAGE)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Storage/Stability

Do not vortex and avoid multiple freeze/thaw cycles. Thaw in room temperature water bath and keep on ice during use. Aliquots may be stored at -70°C without additional storage buffer.

References

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