**Product Information**

**Anti-Estrogen-Related Receptor α**  
produced in rabbit, affinity isolated antibody

Catalog Number **E0406**

**Synonym:** Anti-ERRα; Anti-NR3B1

**Product Description**

Anti-Estrogen-Related Receptor α is produced in rabbit using as immunogen a synthetic peptide conjugated to KLH. The peptide corresponds to the internal domain of human estrogen-related receptor α. The antibody is affinity-purified using the immunizing peptide immobilized on agarose.

Anti-Estrogen-Related Receptor α specifically recognizes human estrogen-related receptor α by immunohistochemistry with formalin-fixed, paraffin-embedded tissues. Not tested for other uses. The immunizing peptide has 100% homology with the mouse gene. Other species reactivity has not been confirmed.

Estrogen-Related Receptor α, a NR3 Steroid Receptor, was isolated based on sequence similarity in its DNA-binding domain to estrogen receptor α (ER α). ERRα has been shown to regulate the promoters of lactoferrin, medium-chain acyl CoA dehydrogenase, osteopontin, and thyroid receptor α, and it may affect cellular energy balance and bone formation. ERRα binds as a monodimer to the extended half-site TNAAGGTCA and as a homodimer to the estrogen response element (ERE) and is a constitutive activator of the estrogen response element and the palindromic thyroid hormone response element (TRE(pal)) but not of the glucocorticoid response element (GRE). ERRα1 is the major isoform expressed in human breast cancer cell lines.

Studies have shown that Phe329 is responsible for the constitutive activity of ERRα. ERRα is a potential biomarker for unfavorable clinical outcome and, possibly, hormonal insensitivity in breast tumors. ERRα status may be predictive of sensitivity to hormonal blockade therapy, and ERRα status may also be predictive of ErbB2-based therapy such as Herceptin. Moreover, ERRα may be a candidate target for therapeutic development. ERRα null mice have altered regulation of genes involved in adipogenesis.

Expression: In mouse, ERRα is expressed in many adult and embryonic tissues (particularly at the onset of ossification) as well as in several osteoblast cell lines. ERRα expression has been documented in mouse in brain, spinal cord, pituitary gland, heart, intestine, bone, brown adipose tissue, heart, uterus, cervix, nerve, skeletal muscle, and vagina. ESTs (Expressed Sequence Tags) have been isolated from human tissue libraries, including cancerous blood, brain, breast, cervix, colon, duodenum, eye, head/neck, kidney, liver, lung, ovary, pancreas, skeletal muscle, skin, stomach, and uterus, and normal adrenal, blood, brain, colon, embryo, eye, head/neck, heart, kidney, prostate, skeletal muscle, testis, and uterus.

Ligand: PPARγ coactivator 1β (PGC-1β) (Kamei et al., 2003), and flavone and isoflavone phytoestrogens (Suetsugi et al., 2003).

**Reagent**

Supplied as a solution of 1 mg/ml in phosphate buffered saline containing 0.1% sodium azide as a preservative.

**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**

For undiluted long term storage, store at -70 °C. For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing, or storage in "frost-free" freezers, is not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilution samples should be discarded if not used within 12 hours.
**Product Profile**

**Immunohistochemistry:** a working concentration of 18-24 µg/ml using human kidney.

**Note:** In order to obtain the best results and assay sensitivity in different techniques and preparations, we recommend determining optimal working dilutions by titration test.