

## DESCRIPTION

|                           |                                                                                                                                                                                                                                                                             |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b> | Human                                                                                                                                                                                                                                                                       |
| <b>Specificity</b>        | Detects human ERα/NR3A1 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant human ERβ is observed.                                                                                                                 |
| <b>Source</b>             | Monoclonal Mouse IgG <sub>2B</sub> Clone # 681104                                                                                                                                                                                                                           |
| <b>Purification</b>       | Protein A or G purified from hybridoma culture supernatant                                                                                                                                                                                                                  |
| <b>Immunogen</b>          | <i>E. coli</i> -derived recombinant human ERα/NR3A1<br>Thr2-Gln116<br>Accession # P03372                                                                                                                                                                                    |
| <b>Conjugate</b>          | Alexa Fluor 488<br>Excitation Wavelength: 488 nm<br>Emission Wavelength: 515-545 nm                                                                                                                                                                                         |
| <b>Formulation</b>        | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide<br><br>*Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

**Immunohistochemistry** Optimal dilution of this antibody should be experimentally determined.

## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied

## BACKGROUND

ERα (Estrogen receptor alpha; also Estradiol receptor and NR3A1) is a 65-70 kDa member of the NR3 subfamily, nuclear hormone receptor family of proteins. It is widely expressed, and serves as a strong activator of estrogen-responsive genes. ERα is normally quiescent and bound to heat-shock proteins and immunophilins. Following β-estradiol binding, it becomes activated, either homodimerizes or heterodimerizes with ERβ, and binds to DNA with multiple coactivators. Human ERα is 595 amino acids (aa) in length. It contains a DNA binding region (aa 185-250), three NLSs (aa 256-260; 266-271; 299-303), a steroid-binding site (aa 351-543), a dimerization motif (aa 497-518), and an O-GlcNAc attachment around Thr575. Major phosphorylation sites exist at Tyr537, Ser167 and Ser118. Multiple splice forms exist. There is an 80 kDa isoform that shows a substitution (duplication) of aa 412-517 for Asp411, a second isoform with a deletion of aa 255-366, a third isoform with a deletion of aa 152-412, and a fourth isoform that shows a Thr substitution for aa 152-595. Human ERα is only 46% aa identical to human ERβ. Over aa 1-116, human ERα shares 85% aa identity with mouse ERα.

## PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.