## Overview

**Product name**  
Anti-Estrogen Receptor beta antibody

**Description**  
Rabbit polyclonal to Estrogen Receptor beta

**Host species**  
Rabbit

**Specificity**  
By Western blot, this antibody detects an ~55 kDa protein representing ER beta from Rat brain homogenate. Immunocytochemical staining of ER beta in cells overexpressing the Human protein results in nuclear staining.

**Tested applications**  
Suitable for: IHC-P, IHC-Fr, ICC, WB, Inhibition Assay, ICC/IF

**Species reactivity**  
Reacts with: Mouse, Rat, Sheep, Human, Pig, Non human primates

**Predicted to work with:** Hamster

**Immunogen**  
Synthetic peptide corresponding to Rat Estrogen Receptor beta aa 467-485.

Sequence:
CSSTEDSKNKESSQNLQSQ

(Peptide available as ab5018)

**Positive control**  
WB: Rat brain lysate  
IHC: testis, efferent ductules, epididymis, and vas deferens (see Zhou et al),  
Rat ovary (see Sanchez-Criado)

## Properties

**Form**  
Liquid

**Storage instructions**  
Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C or -80°C. Avoid freeze / thaw cycle.

**Storage buffer**  
Preservative: 0.05% Sodium azide  
Constituents: 0.1% BSA, 99% PBS

**Purity**  
Immunogen affinity purified

**Clonality**  
Polyclonal

**Isotype**  
IgG

## Applications
**Function**

Nuclear hormone receptor. Binds estrogens with an affinity similar to that of ESR1, and activates expression of reporter genes containing estrogen response elements (ERE) in an estrogen-dependent manner. Isoform beta-cx lacks ligand binding ability and has no or only very low ere binding activity resulting in the loss of ligand-dependent transactivation ability. DNA-binding by ESR1 and ESR2 is rapidly lost at 37 degrees Celsius in the absence of ligand while in the presence of 17 beta-estradiol and 4-hydroxy-tamoxifen loss in DNA-binding at elevated temperature is more gradual.

**Tissue specificity**

 Isoform beta-1 is expressed in testis and ovary, and at a lower level in heart, brain, placenta, liver, skeletal muscle, spleen, thymus, prostate, colon, bone marrow, mammary gland and uterus. Also found in uterine bone, breast, and ovarian tumor cell lines, but not in colon and liver tumors.

 Isoform beta-2 is expressed in spleen, thymus, testis and ovary and at a lower level in skeletal muscle, prostate, colon, small intestine, leukocytes, bone marrow, mammary gland and uterus.

 Isoform beta-3 is found in testis. Isoform beta-4 is expressed in testis, and at a lower level in spleen, thymus, ovary, mammary gland and uterus. Isoform beta-5 is expressed in testis, placenta, skeletal muscle, spleen and leukocytes, and at a lower level in heart, lung, liver, kidney, pancreas, thymus, prostate, colon, small intestine, bone marrow, mammary gland and uterus. Not expressed in brain.

**Sequence similarities**

Belongs to the nuclear hormone receptor family. NR3 subfamily. Contains 1 nuclear receptor DNA-binding domain.

**Domain**

Composed of three domains: a modulating N-terminal domain, a DNA-binding domain and a C-terminal ligand-binding domain.

**Cellular localization**

Nucleus.

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**Our Abpromise guarantee** covers the use of ab3576 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

<table>
<thead>
<tr>
<th>Application</th>
<th>Abreviews</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IHC-P</td>
<td>★★★★★</td>
<td>1/50. Perform heat mediated antigen retrieval via the microwave method before commencing with IHC staining protocol.</td>
</tr>
<tr>
<td>IHC-Fr</td>
<td>1/50.</td>
<td></td>
</tr>
<tr>
<td>ICC</td>
<td>1/100 - 1/1000.</td>
<td></td>
</tr>
<tr>
<td>WB</td>
<td>★★★★★</td>
<td>Use a concentration of 1 µg/ml. Detects a band of approximately 55 kDa (predicted molecular weight: 59 kDa).</td>
</tr>
<tr>
<td>Inhibition Assay</td>
<td></td>
<td>Use at an assay dependent concentration.</td>
</tr>
<tr>
<td>ICC/IF</td>
<td>1/100 - 1/1000.</td>
<td></td>
</tr>
</tbody>
</table>

**Images**

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Immunofluorescence analysis of frozen murine thoracic aorta, staining Estrogen Receptor beta with ab3576 at 1/50 dilution (green: not merged with nucleus, or purple: merged with nucleus). Nuclei were stained with DAPI (blue) and actin fibers were stained red.

Immunofluorescent analysis using Estrogen Receptor beta polyclonal antibody (ab3576) shows nuclear localization of Estrogen Receptor beta in MCF7 cells. Formalin fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 10 minutes at room temperature. Cells were blocked with 1% BSA for 15 minutes at room temperature. Cells were probed with a rabbit polyclonal antibody recognizing Estrogen Receptor beta (ab3576), at a dilution of 1:100 for 1 hour at room temperature. Cells were washed with PBS and incubated with DyLight 488 goat-anti-rabbit IgG secondary antibody at a dilution of 1:400 for 30 minutes at room temperature. Nuclei (blue) were stained with Hoechst 33342 dye. Images were taken at 20X magnification.

All lanes : Anti-Estrogen Receptor beta antibody (ab3576) at 1/2000 dilution

Lane 1 : CAL region of Human brain - Whole cell lysate
Lane 2 : EC region of Human brain - Whole cell lysate
Lane 3 : HIP region of Human brain - Whole cell lysate
Lane 4 : IT region of Human brain - Whole cell lysate
Lane 5 : MF region of Human brain - Whole cell lysate
Lane 6 : SP region of Human brain - Whole cell lysate

Secondary
All lanes : HRP conjugated Donkey Anti-rabbit IgG
Predicted band size: 59 kDa
Observed band size: 55 kDa
Why is the actual band size different from the predicted?

This image is courtesy of an Abreview submitted on 3 February 2006.

Immunolocalization of ER beta from CHO cells overexpressing the Human protein, using ab3576 (1μg/ml).

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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