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Product Information

Anti-Androgen Receptor

Developed in Rabbit
Affinity Isolated Antibody

Product Number **A 9853**

Product Description

Anti-Androgen Receptor is developed in rabbit using as immunogen an evolutionally conserved peptide corresponding to amino acids 1-21 (MEVQLGLGRVY-PRPPSKTYRG) of the human androgen receptor. This sequence is not found in estrogen, progesterone, or glucocorticoid receptors. The antibody is affinity-purified using the immunizing peptide immobilized on agarose

Anti-Androgen Receptor specifically recognizes the human androgen receptor protein (110 kDa). An additional band may be observed at 45 kDa. The antibody cross-reacts with androgen receptor from rat. Applications include the detection of androgen receptor by immunoblotting, immunoprecipitation, and immunohistochemistry (pretreated, formalin-fixed, paraffin-embedded tissues).

Androgens are involved in a variety of centrally mediated functions. The androgen receptor (AR) is a member of the nuclear steroid hormone receptor superfamily of ligand-dependent transcription factors. It mediates androgen action in a variety of tissues such as prostate, testis, brain, skeletal muscle, hair follicles and pituitary gland. The androgen receptor comprises an N-terminal modulating domain, a well-conserved central DNA-binding domain, hinge region, and C-terminal ligand-binding domain.¹⁻⁴ According to a current model of androgen action,³ binding of androgen (testosterone or its active metabolite 5- α -dihydrotestosterone) to the androgen receptor in the target cell may occur in the cytoplasm or in the nucleus. After dissociation of heat shock proteins such as Hsp90 and co-chaperones in the cytoplasm, a conformational change of the androgen receptor occurs and the receptor translocates to the nucleus via an intrinsic nuclear localization signal. In the nucleus, the androgen receptor binds to androgen response elements in the DNA, homodimerizes and recruits several proteins such as coactivators, corepressors, general transcription factors, and RNA polymerase II.

This results in specific activation of transcription of various genes participating in generating an androgen response important for development, maintenance, and senescence of reproductive and non-reproductive organ systems.⁵⁻⁷

Phosphorylation of the androgen receptor occurs immediately after translation and is thought to be involved in androgen receptor binding, activation, and DNA binding modulation.^{8,9} A non-genomic, rapid and sex-nonspecific androgen signaling pathway involving the androgen receptor via cross-talk with the Scr/RAF-1/Erk-2 pathway has also been reported.^{10,11} Expression of androgen receptor is modified at several life stages including fetal development and sexual development. Defects in androgen receptor (AR) may cause: testicular feminization syndrome, androgen insensitivity syndrome, and X-linked spinal and bulbar muscular atrophy. They also play a role in male osteoporosis and androgenetic alopecia. In addition, androgen receptor is important in the progression of prostate cancer. The androgen receptor is expressed in the majority of these tumors and in most of their lymph node metastases.¹² It has also been detected in breast, colorectal, and ovarian carcinomas.

Reagent

Anti-Androgen Receptor is supplied as a solution in 0.01 M phosphate buffered saline, pH 7.4, containing 15 mM sodium azide.

Antibody Concentration: Approx. 1 mg/ml

Precautions and Disclaimer

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

Storage/Stability

For continuous use, store at 2-8 °C for up to one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Storage in frost-free freezers is also not recommended. If slight turbidity occurs upon prolonged storage, clarify the solution by centrifugation before use. Working dilutions should be discarded if not used within 12 hours.

Product Profile

By immunoblotting, a working antibody concentration of 1-2 µg/ml is recommended using whole extract of rat brain.

By immunoprecipitation, 5-10 µg of the antibody immunoprecipitates the androgen receptor from 250 µg of human MCF7 cell lysate.

By immunohistochemistry, a working antibody concentration of 20-40 µg/ml is recommended using microwave-pretreated formalin-fixed, paraffin-embedded human prostate tissue sections.

Note: In order to obtain the best results using various techniques and preparations, we recommend determining the optimal working concentrations by titration.

References

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