SANTA CRUZ BIOTECHNOLOGY, INC.

AR (441): sc-7305

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Androgens exhibit a wide range of effects on the development, maintenance and regulation of male phenotype and make reproductive physiology. The androgen receptor (AR) is a member of the steroid superfamily of ligand-dependent transcription factors. ARs bind the two biologically active androgens, testosterone (T) and dihydrotestosterone (DHT), with high and nearly identical affinities; however, the rates of association and dissociation of T are about three times more rapid than those of DHT. This difference has resulted in speculation as to whether these differences in binding kinetics could account for the different physiological effects of T and DHT. A striking feature of AR is its rapid degradation in the absence of ligand. It is now well established that androgen binding results in an at least six-fold increase in androgen stability and that ligand-induced stabilization of AR is highly androgen-specific.

REFERENCES

1. Walsh, P.C., et al. 1974. Familial incomplete male pseudohermaphroditism type 2: decreased dihydrotestosterone formation in pseudovaginal perineoscrotal hypospadias. N. Engl. J. Med. 291: 944-949.
2. Imperato-McGinley, J., et al. 1974. Steroid 5α-reductase deficiency in man: an inherited form of male pseudohermaphroditism. Science 186: 1213-1215.

CHROMOSOMAL LOCATION

Genetic locus: AR (human) mapping to Xq12; Ar (mouse) mapping to X C3.

SOURCE

AR (441) is a mouse monoclonal antibody raised against amino acids 299-315 of AR of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-7305 X, 200 µg/0.1 ml.

AR (441) is available conjugated to agarose (sc-7305 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-7305 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-7305 PE), fluorescein (sc-7305 FITC), Alexa Fluor® 488 (sc-7305 AF488), Alexa Fluor® 546 (sc-7305 AF546), Alexa Fluor® 594 (sc-7305 AF594) or Alexa Fluor® 647 (sc-7305 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-7305 AF680) or Alexa Fluor® 790 (sc-7305 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, AR (441) is available conjugated to either TRITC (sc-7305 TRITC, 200 µg/ml) or Alexa Fluor® 405 (sc-7305 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

AR (441) is recommended for detection of AR of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

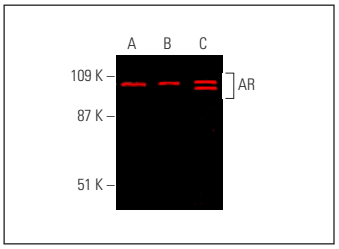
Suitable for use as control antibody for AR siRNA (h): sc-29204, AR siRNA (m): sc-29203, AR shRNA Plasmid (h): sc-29204-SH, AR shRNA Plasmid (m): sc-29203-SH, AR shRNA (h) Lentiviral Particles: sc-29204-V and AR shRNA (m) Lentiviral Particles: sc-29203-V.

AR (441) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

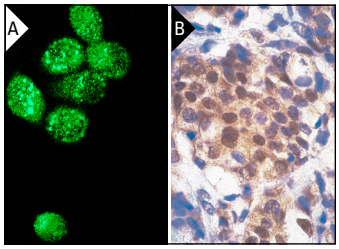
Molecular Weight of AR: 110 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, ZR-75-1 cell lysate: sc-2241 or LNCaP cell lysate: sc-2231.

DATA



AR (441): sc-7305. Near-infrared western blot analysis of AR expression in ZR-75-1 (**A**), MCF7 (**B**) and LNCaP (**C**) whole cell lysates. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



AR (441): sc-7305. Immunofluorescence staining of methanol-fixed T-47D cells (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast carcinoma tissue showing nuclear staining showing nuclear localization (**B**).

SELECT PRODUCT CITATIONS

1. Müller, J.M., et al. 2000. FHL2, a novel tissue-specific coactivator of the androgen receptor. EMBO J. 19: 359-369.
2. Haines, M.L., et al. 2019. Evidence for adaptive introgression of exons across a hybrid swarm in deer. BMC Evol. Biol. 19: 199.
3. Sánchez, B.G., et al. 2020. Androgen deprivation induces reprogramming of prostate cancer cells to stem-like cells. Cells 9: 1441.
4. Bolis, M., et al. 2021. Dynamic prostate cancer transcriptome analysis delineates the trajectory to disease progression. Nat. Commun. 12: 7033.
5. Luo, H., et al. 2022. Androgen receptor splicing variant 7 (ARv7) promotes DNA damage response in prostate cancer cells. FASEB J. 36: e22495.
6. Alegre-Martí, A., et al. 2023. A hotspot for posttranslational modifications on the androgen receptor dimer interface drives pathology and anti-androgen resistance. Sci. Adv. 9: eade2175.

RESEARCH USE

For research use only, not for use in diagnostic procedures.