

# ARA70 (D-19): sc-15984

## BACKGROUND

Androgen receptor (AR) coactivator ARA70, also designated RFG and ELE1, is a putative coactivator that specifically enhances the activity of the androgen receptor. In human thyroid carcinomas, Ret proto-oncogene fuses to ARA70 to form Ret/PTC3 by an intrachromosomal inversion of chromosome 10 *in vivo*. ARA70 is expressed as two isoforms, ARA70 $\alpha$  and ARA70 $\beta$ . The shorter variant, ARA70 $\beta$ , results from an internal 985-bp deletion. ARA70 $\alpha$  is widely expressed, and its expression is highest in testis and adipose tissues; whereas ARA70 $\beta$  is solely expressed in the testis. ARA70 $\alpha$  can function as a ligand-enhanced coactivator of PPAR $\gamma$  in adipocytes. However, PPAR $\gamma$ -ARA70 transactivation can be squelched by AR, which suggests cross talk between PPAR $\gamma$ - and AR-mediated response. ARA70 $\alpha$  has no intrinsic transcription activation domain or histone acetyltransferase activity, but it interacts with histone acetyltransferase, p/CAF, CBP and p300/CBP-associated factors and the basal transcription factor TFIIB. The interaction between ARA70 and AR occurs through the ligand-binding domain. The presence of ARA70 can enhance the androgenic activity of 17  $\beta$ -estradiol (E2) and antiandrogens toward AR. ARA70 may be involved in prostate carcinogenesis and ovarian cancer and may serve as a key mediator of estrogen-androgen synergism.

## REFERENCES

1. Santoro, M., et al. 1994. Molecular characterization of Ret/PTC3: a novel rearranged version of the Ret proto-oncogene in a human thyroid papillary carcinoma. *Oncogene* 9: 509-516.
2. Bongarzone, I., et al. 1994. Frequent activation of Ret proto-oncogene by fusion with a new activating gene in papillary thyroid carcinomas. *Cancer Res.* 54: 2979-2985.

## CHROMOSOMAL LOCATION

Genetic locus: NCOA4 (human) mapping to 10q11.23; Ncoa4 (mouse) mapping to 14 B.

## SOURCE

ARA70 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ARA70 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG 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-15984 X, 200  $\mu$ g/0.1 ml.

Blocking peptide available for competition studies, sc-15984 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## RESEARCH USE

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

## APPLICATIONS

ARA70 (D-19) is recommended for detection of ARA70 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ARA70 (D-19) is also recommended for detection of ARA70 in additional species, including equine, canine, bovine and porcine.

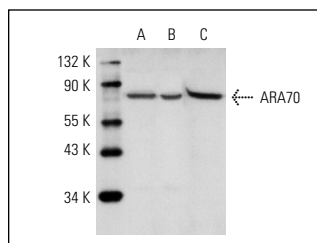
Suitable for use as control antibody for ARA70 siRNA (h): sc-29719, ARA70 siRNA (m): sc-29720, ARA70 shRNA Plasmid (h): sc-29719-SH, ARA70 shRNA Plasmid (m): sc-29720-SH, ARA70 shRNA (h) Lentiviral Particles: sc-29719-V and ARA70 shRNA (m) Lentiviral Particles: sc-29720-V.

ARA70 (D-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

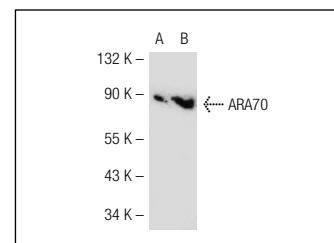
Molecular Weight of ARA70: 70 kDa.

Positive Controls: DU 145 cell lysate: sc-2268, PC-3 cell lysate: sc-2220 or ARA70 (m): 293T Lysate: sc-118506.

## DATA



ARA70 (D-19): sc-15984. Western blot analysis of ARA70 expression in DU 145 (A), PC-3 (B) and 3T3-L1 (C) whole cell lysates.



ARA70 (D-19): sc-15984. Western blot analysis of ARA70 expression in non-transfected: sc-117752 (A) and mouse ARA70 transfected: sc-118506 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Lanzino, M., et al. 2005. Endogenous coactivator ARA70 interacts with estrogen receptor  $\alpha$  (ER $\alpha$ ) and modulates the functional ER $\alpha$ /androgen receptor interplay in MCF-7 cells. *J. Biol. Chem.* 280: 20421-20430.
2. Kollara, A., et al. 2010. Variable expression of nuclear receptor coactivator 4 (NcoA4) during mouse embryonic development. *J. Histochem. Cytochem.* 58: 595-609.
3. Kollara, A., et al. 2011. Dynamic distribution of nuclear coactivator 4 during mitosis: association with mitotic apparatus and midbodies. *PLoS ONE* 6: e22257.

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Try **ARA70 (C-4): sc-373739**, our highly recommended monoclonal alternative to ARA70 (D-19).