

# ZNF281 (D-8): sc-166933



The Power to Question

## BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. ZNF281, also known as GC-box-binding zinc finger protein 1, ZBP-99 or ZNP-99 (zinc finger DNA-binding protein 99), is a zinc finger protein that belongs to the Krüppel C<sub>2</sub>H<sub>2</sub>-type zinc finger protein family. It is expressed ubiquitously at low levels with predominant expression in kidney, liver, lymphocytes and placenta. ZNF281 localizes to the nucleus and contains four C<sub>2</sub>H<sub>2</sub>-type zinc fingers. ZNF281 plays a role in repressing the transcription of a variety of genes including Gastrin and ODC (ornithine decarboxylase). In particular, ZNF281 functions by binding to the G-rich box in the enhancer region of the gene. Upon DNA damage, ZNF281 may become phosphorylated by Atm or ATR.

## CHROMOSOMAL LOCATION

Genetic locus: ZNF281 (human) mapping to 1q32.1; Zfp281 (mouse) mapping to 1 E4.

## SOURCE

ZNF281 (D-8) is a mouse monoclonal antibody raised against amino acids 679-895 mapping at the C-terminus of ZNF281 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> 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-166933 X, 200 µg/0.1 ml.

ZNF281 (D-8) is available conjugated to agarose (sc-166933 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-166933 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166933 PE), fluorescein (sc-166933 FITC), Alexa Fluor® 488 (sc-166933 AF488), Alexa Fluor® 546 (sc-166933 AF546), Alexa Fluor® 594 (sc-166933 AF594) or Alexa Fluor® 647 (sc-166933 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166933 AF680) or Alexa Fluor® 790 (sc-166933 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

ZNF281 (D-8) is recommended for detection of ZNF281 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for ZNF281 siRNA (h): sc-88283, ZNF281 siRNA (m): sc-106714, ZNF281 shRNA Plasmid (h): sc-88283-SH, ZNF281 shRNA Plasmid (m): sc-106714-SH, ZNF281 shRNA (h) Lentiviral Particles: sc-88283-V and ZNF281 shRNA (m) Lentiviral Particles: sc-106714-V.

ZNF281 (D-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

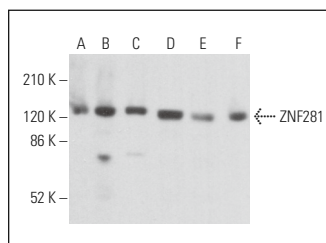
Molecular Weight of ZNF281: 99 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, NIH/3T3 nuclear extract: sc-2138 or KNRK nuclear extract: sc-2141.

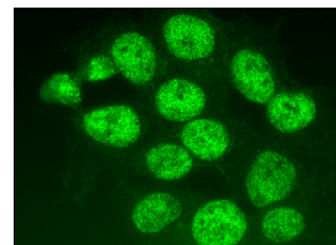
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



ZNF281 (D-8): sc-166933. Western blot analysis of ZNF281 expression in HeLa (A), NIH/3T3 (B) and KNRK (C) nuclear extracts and A-431 (D), HEK293 (E) and MCF7 (F) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



ZNF281 (D-8): sc-166933. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

## SELECT PRODUCT CITATIONS

- Huang, X., et al. 2017. Zfp281 is essential for mouse epiblast maturation through transcriptional and epigenetic control of Nodal signaling. *Elife* 6: e33333.
- Ishiuchi, T., et al. 2019. Zfp281 shapes the transcriptome of trophoblast stem cells and is essential for placental development. *Cell Rep.* 27: 1742-1754.e6.
- Ameneiro, C., et al. 2020. BMAL1 coordinates energy metabolism and differentiation of pluripotent stem cells. *Life Sci. Alliance* 3: e201900534.
- Hou, X., et al. 2023. Multi-functional gene ZNF281 identified as a molecular biomarker in soft tissue regeneration and pan-cancer progression. *Front. Genet.* 13: 1082654.
- Dalla, E., et al. 2024. Lung-resident alveolar macrophages regulate the timing of breast cancer metastasis. *Cell* 187: 6631-6648.e20.
- Chong, Y., et al. 2024. ZNF281 Facilitates the invasion of cervical cancer cell both *in vivo* and *in vitro*. *Cancers* 16: 3717.

## 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.

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