

# PIWIL3 (C-3): sc-398779



The Power to Question

## BACKGROUND

PIWIL3 (piwi-like 3), also known as HIWI3, is an 882 cytoplasmic protein that belongs to the argonaute family. Expressed in testis, PIWIL3 may participate in spermatogenesis by repressing transposable elements and preventing mobilization, which is essential for germline integrity. PIWIL3 may act via the piRNA metabolic process, which mediates the repression of transposable elements during meiosis by forming complexes composed of piRNAs and PIWI proteins while governing the methylation and subsequent repression of transposons. PIWIL3 directly binds piRNAs, a class of 24 to 30 nucleotide RNAs that are generated by a Dicer-independent mechanism and are primarily derived from transposons and other repeated sequence elements. PIWIL3 may also be involved in human specific tumor pathogenesis. The gene encoding PIWIL3 maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome.

## REFERENCES

- Dunham, I., et al. 1999. The DNA sequence of human chromosome 22. *Nature* 402: 489-495.
- Sasaki, T., et al. 2003. Identification of eight members of the Argonaute family in the human genome small star, filled. *Genomics* 82: 323-330.
- Seto, A.G., et al. 2007. The coming of age for Piwi proteins. *Mol. Cell* 26: 603-609.
- Peters, L. and Meister, G. 2007. Argonaute proteins: mediators of RNA silencing. *Mol. Cell* 26: 611-623.
- Farazi, T.A., et al. 2008. The growing catalog of small RNAs and their association with distinct Argonaute/Piwi family members. *Development* 135: 1201-1214.
- Höck, J. and Meister, G. 2008. The Argonaute protein family. *Genome Biol.* 9: 210.

## CHROMOSOMAL LOCATION

Genetic locus: PIWIL3 (human) mapping to 22q11.23.

## SOURCE

PIWIL3 (C-3) is a mouse monoclonal antibody raised against amino acids 16-105 mapping near the N-terminus of PIWIL3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PIWIL3 (C-3) is available conjugated to agarose (sc-398779 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-398779 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-398779 PE), fluorescein (sc-398779 FITC), Alexa Fluor® 488 (sc-398779 AF488), Alexa Fluor® 546 (sc-398779 AF546), Alexa Fluor® 594 (sc-398779 AF594) or Alexa Fluor® 647 (sc-398779 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-398779 AF680) or Alexa Fluor® 790 (sc-398779 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

PIWIL3 (C-3) is recommended for detection of PIWIL3 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 PIWIL3 siRNA (h): sc-76153, PIWIL3 siRNA (m): sc-76154, PIWIL3 shRNA Plasmid (h): sc-76153-SH, PIWIL3 shRNA Plasmid (m): sc-76154-SH, PIWIL3 shRNA (h) Lentiviral Particles: sc-76153-V and PIWIL3 shRNA (m) Lentiviral Particles: sc-76154-V.

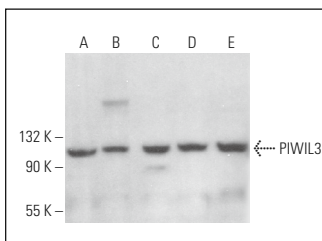
Molecular Weight of PIWIL3: 101 kDa.

Positive Controls: NTERA-2 cl.D1 whole cell lysate: sc-364181, HeLa whole cell lysate: sc-2200 or Hs 181 Tes whole cell lysate: sc-364779.

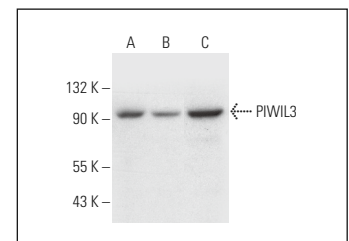
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgGκ BPHRP: sc-516102 or m-IgGκ BPHRP (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 BPFITC: sc-516140 or m-IgGκ BPE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



PIWIL3 (C-3): sc-398779. Western blot analysis of PIWIL3 expression in 3T3-L1 (A), C3H/10T1/2 (B), F9 (C), Jurkat (D) and K-562 (E) whole cell lysates.



PIWIL3 (C-3): sc-398779. Western blot analysis of PIWIL3 expression in NTERA-2 cl.D1 (A), Hs 181 Tes (B) and HeLa (C) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Mai, D., et al. 2018. PIWI-interacting RNA-54265 is oncogenic and a potential therapeutic target in colorectal adenocarcinoma. *Theranostics* 8: 5213-5230.

## 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.