SANTA CRUZ BIOTECHNOLOGY, INC.

# PCGF1 (E-8): sc-515371

## BACKGROUND

Polycomb group (PCG) proteins form multiprotein complexes that regulate expression patterns of developmental and cell proliferation genes. Several PCG proteins contain ring finger domains and have been identified as a subclass of RING finger proteins. The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain the RING-type zinc finger conserved domain are generally involved in the ubiquitination pathway of protein degradation. PCGF1 (polycomb group ring finger 1), also known as NSPC1, RNF68 or RNF3A-2, is a 259 amino acid nuclear protein that is ubiquitously expressed. PCGF1 is a component of the PCG multiprotein BCoR complex, a complex required to maintain the transcriptionally repressive state of some genes, such as Bcl-6 and the cyclin-dependent kinase inhibitor, p21. PCGF1 promotes cell cycle progression and enhances cell proliferation.

## CHROMOSOMAL LOCATION

Genetic locus: PCGF1 (human) mapping to 2p13.1; Pcgf1 (mouse) mapping to 6 C3.

## SOURCE

PCGF1 (E-8) is a mouse monoclonal antibody raised against amino acids 128-247 mapping near the C-terminus of PCGF1 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.

PCGF1 (E-8) is available conjugated to agarose (sc-515371 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515371 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515371 PE), fluorescein (sc-515371 FITC), Alexa Fluor® 488 (sc-515371 AF488), Alexa Fluor® 546 (sc-515371 AF546), Alexa Fluor® 594 (sc-515371 AF594) or Alexa Fluor® 647 (sc-515371 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515371 AF680) or Alexa Fluor® 790 (sc-515371 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

PCGF1 (E-8) is recommended for detection of PCGF1 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 PCGF1 siRNA (h): sc-94353, PCGF1 siRNA (m): sc-152107, PCGF1 shRNA Plasmid (h): sc-94353-SH, PCGF1 shRNA Plasmid (m): sc-152107-SH, PCGF1 shRNA (h) Lentiviral Particles: sc-94353-V and PCGF1 shRNA (m) Lentiviral Particles: sc-152107-V.

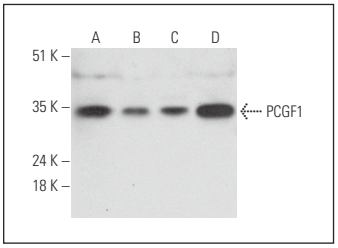
Molecular Weight of PCGF1: 30 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, MCF7 whole cell lysate: sc-2206 or Jurkat whole cell lysate: sc-2204.

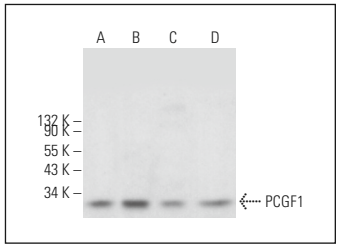
## STORAGE

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

## DATA




PCGF1 (E-8): sc-515371. Western blot analysis of PCGF1 expression in HeLa nuclear extract (**A**) and MCF7 (**B**), DU 145 (**C**) and Jurkat (**D**) whole cell lysates.




PCGF1 (E-8): sc-515371. Western blot analysis of PCGF1 expression in PC-3 (**A**), MDA-MB-231 (**B**), NIH/3T3 (**C**) and F9 (**D**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Yan, Y., et al. 2017. Loss of Polycomb group protein PCGF1 severely compromises proper differentiation of embryonic stem cells. Sci. Rep. 7: 46276.
2. Endoh, M., et al. 2017. PCGF6-PRC1 suppresses premature differentiation of mouse embryonic stem cells by regulating germ cell-related genes. Elife 6: e21064.
3. Banito, A., et al. 2018. The SS18-SSX oncoprotein hijacks KDM2B-PRC1.1 to drive synovial sarcoma. Cancer Cell 33: 527-541.e8.
4. Rona, G., et al. 2018. PARP1-dependent recruitment of the FBXL10-RNF68-RNF2 ubiquitin ligase to sites of DNA damage controls H2A.Z loading. Elife 7: e38771.
5. Su, W., et al. 2019. The polycomb repressor complex 1 drives double-negative prostate cancer metastasis by coordinating stemness and immune suppression. Cancer Cell 36: 139-155.e10.
6. Lee, P.C., et al. 2022. Reversal of viral and epigenetic HLA class I repression in Merkel cell carcinoma. J. Clin. Invest. 132: e151666.
7. Schaefer, E.J., et al. 2022. BCOR and BCORL1 mutations drive epigenetic reprogramming and oncogenic signaling by unlinking PRC1.1 from target genes. Blood Cancer Discov. 3: 116-135.
8. Takano, J., et al. 2022. PCGF1-PRC1 links chromatin repression with DNA replication during hematopoietic cell lineage commitment. Nat. Commun. 13: 7159.
9. Sparbier, C.E., et al. 2023. Targeting Menin disrupts the KMT2A/B and polycomb balance to paradoxically activate bivalent genes. Nat. Cell Biol. 25: 258-272.


## RESEARCH USE

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