SANTA CRUZ BIOTECHNOLOGY, INC.

PELO (G-4): sc-514484

BACKGROUND

PELO (pelota homolog), also known as CGI-17 or PRO1770, is a 385 amino acid nuclear and cytoplasmic protein that belongs to the eukaryotic release factor 1 family and the pelota subfamily. Evolutionary conserved, PELO may be involved in the regulation of cell proliferation and stem cell self-renewal, and is suggested to be required for normal chromosome segregation during cell division and genomic stability. PELO may posses ribonuclease activity and has the ability to recognize stalled ribosomes, thereby triggering endonucleolytic cleavage of mRNA, a mechanism that releases non-functional ribosomes and degrades damaged mRNAs. PELO is ubiquitously expressed and utilizes divalent metal cations as cofactors. PELO may be essential for spermatogenesis, cell cycle control and in meiotic cell division. PELO is encoded by a gene located on human chromosome 5q11.2.

REFERENCES

1. Eberhart, C.G. and Wasserman, S.A. 1995. The pelota locus encodes a protein required for meiotic cell division: an analysis of G_2/M arrest in *Drosophila* spermatogenesis. Development 121: 3477-3486.
2. Ragan, M.A., et al. 1996. An archaebacterial homolog of pelota, a meiotic cell division protein in eukaryotes. FEMS Microbiol. Lett. 144: 151-155.
3. Shamsadin, R., et al. 2000. Molecular cloning, expression and chromosome location of the human pelota gene PELO. Cytogenet. Cell Genet. 90: 75-78.
4. Shamsadin, R., et al. 2002. Mouse pelota gene (PELO): cDNA cloning, genomic structure, and chromosomal localization. Cytogenet. Genome Res. 97: 95-99.
5. Adham, I.M., et al. 2003. Disruption of the pelota gene causes early embryonic lethality and defects in cell cycle progression. Mol. Cell. Biol. 23: 1470-1476.
6. Xi, R., et al. 2005. Pelota controls self-renewal of germline stem cells by repressing a Bam-independent differentiation pathway. Development 132: 5365-5374.
7. Burnicka-Turek, O., et al. 2010. Pelota interacts with HAX1, EIF3G and SRPX and the resulting protein complexes are associated with the actin cytoskeleton. BMC Cell Biol. 11: 28.

CHROMOSOMAL LOCATION

Genetic locus: PELO (human) mapping to 5q11.2; Pelo (mouse) mapping to 13 D2.2.

SOURCE

PELO (G-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 311-331 within an internal region of PELO of human origin.

STORAGE

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

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.

Blocking peptide available for competition studies, sc-514484 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PELO (G-4) is recommended for detection of PELO 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 PELO siRNA (h): sc-91932, PELO siRNA (m): sc-152161, PELO shRNA Plasmid (h): sc-91932-SH, PELO shRNA Plasmid (m): sc-152161-SH, PELO shRNA (h) Lentiviral Particles: sc-91932-V and PELO shRNA (m) Lentiviral Particles: sc-152161-V.

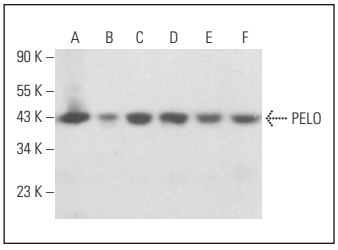
Molecular Weight of PELO: 43 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, A-431 whole cell lysate: sc-2201 or A-375 cell lysate: sc-3811.

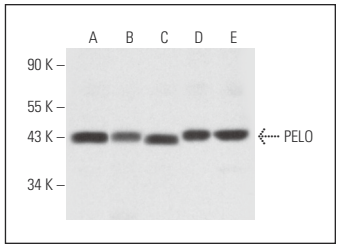
RECOMMENDED SUPPORT REAGENTS

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



PELO (G-4): sc-514484. Western blot analysis of PELO expression in HUV-EC-C (**A**), C6 (**B**), IMR-32 (**C**), L6 (**D**), Sol8 (**E**) and A-673 (**F**) whole cell lysates.



PELO (G-4): sc-514484. Western blot analysis of PELO expression in HeLa (**A**), HEK293 (**B**), A-375 (**C**), SH-SY5Y (**D**) and A-431 (**E**) whole cell lysates.

RESEARCH USE

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