

## Datasheet for ABIN2775251 anti-C10orf2 antibody (Middle Region)



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### Overview

|                      |   |
|----------------------|---|
| Quantity:            | 100 µL  |
| Target:              | C10orf2 (C10ORF2)   |
| Binding Specificity: | Middle Region   |
| Reactivity:          | Human, Mouse, Rat, Cow, Guinea Pig, Horse, Dog, Rabbit, Zebrafish (Danio rerio) |
| Host:                | Rabbit  |
| Clonality:           | Polyclonal  |
| Conjugate:           | This C10orf2 antibody is un-conjugated  |
| Application:         | Western Blotting (WB)   |

### Product Details

|                       |  |
|-----------------------|--|
| Immunogen:            | The immunogen is a synthetic peptide directed towards the middle region of human PEO1  |
| Sequence:             | GVFRKFATDN NCHVTLVHP RKEDDDKELQ TASIFGSAKA SQEADNVLIL  |
| Predicted Reactivity: | Cow: 100%, Dog: 100%, Guinea Pig: 100%, Horse: 100%, Human: 100%, Mouse: 100%, Rabbit: 100%, Rat: 100%, Zebrafish: 93%         |
| Characteristics:      | This is a rabbit polyclonal antibody against PEO1. It was validated on Western Blot using a cell lysate as a positive control. |
| Purification:         | Affinity Purified  |

### Target Details

|         |                   |
|---------|-------------------|
| Target: | C10orf2 (C10ORF2) |
|---------|-------------------|

## Target Details

|                   |  |
|-------------------|--|
| Alternative Name: | PEO1 ( <a href="#">C10ORF2 Products</a> )  |
| Background:       | <p>Twinkle is a mitochondrial protein with structural similarity to the phage T7 primase/helicase (GP4) and other hexameric ring helicases. The twinkle protein colocalizes with mtDNA in mitochondrial nucleoids, and its name derives from the unusual localization pattern reminiscent of twinkling stars. Twinkle is a mitochondrial protein with structural similarity to the phage T7 primase/helicase (GP4) and other hexameric ring helicases. The twinkle protein colocalizes with mtDNA in mitochondrial nucleoids, and its name derives from the unusual localization pattern reminiscent of twinkling stars (Spelbrink et al., 2001 [PubMed 11431692]). [supplied by OMIM]. Publication Note: This RefSeq record includes a subset of the publications that are available for this gene. Please see the Entrez Gene record to access additional publications.</p> <p>PRIMARYREFSEQ_SPAN PRIMARY_IDENTIFIER PRIMARY_SPAN COMP 1-213 BG473173.1 6-218 214-1706 BX640829.1 215-1707 1707-3630 BC033762.1 719-2642</p> <p>Alias Symbols: C10orf2, FLJ21832, PEO, PEOA3, SANDO, TWINL, PEO1, SCA8, ATXN8, IOSCA, MTDPS7</p> <p>Protein Interaction Partner: ZBTB1, BMI1, SMAD9, ICT1, SQSTM1, AKTIP,</p> <p>Protein Size: 684</p> |
| Molecular Weight: | 77 kDa   |
| Gene ID:          | 56652  |
| NCBI Accession:   | <a href="#">NM_021830</a> , <a href="#">NP_068602</a>  |
| UniProt:          | <a href="#">Q96RR1</a>   |

## Application Details

|                    |  |
|--------------------|--|
| Application Notes: | Optimal working dilutions should be determined experimentally by the investigator. |
| Comment:           | Antigen size: 684 AA   |
| Restrictions:      | For Research Use only  |

## Handling

|                |   |
|----------------|---|
| Format:        | Liquid  |
| Concentration: | Lot specific  |
| Buffer:        | Liquid. Purified antibody supplied in 1x PBS buffer with 0.09 % (w/v) sodium azide and 2 % sucrose. |

## Handling

|                    |   |
|--------------------|---|
| Preservative:      | Sodium azide  |
| Precaution of Use: | This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.                  |
| Handling Advice:   | Avoid repeated freeze-thaw cycles.  |
| Storage:           | -20 °C  |
| Storage Comment:   | For short term use, store at 2-8°C up to 1 week. For long term storage, store at -20°C in small aliquots to prevent freeze-thaw cycles. |

## Publications

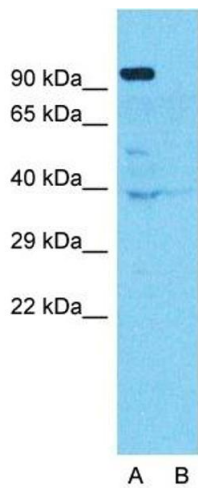
|                   |  |
|-------------------|--|
| Product cited in: | Infantino, Iacobazzi, Palmieri, Menga: "ATP-citrate lyase is essential for macrophage inflammatory response." in: <b>Biochemical and biophysical research communications</b> , Vol. 440, Issue 1, pp. 105-11, (2013) ( <a href="#">PubMed</a> ). |
|-------------------|--|

## Images



### Western Blotting

**Image 1.** WB Suggested Anti-PEO1 Antibody Titration: 0.2-1 ug/ml ELISA Titer: 1:312500 Positive Control: Jurkat cell lysate



Western Blotting

**Image 2.** Host: Rabbit Target Name: PEO1 Sample Type: HeLa Lane A: Primary Antibody Lane B: Primary Antibody + Blocking Peptide Primary Antibody Concentration: 1ug/ml Peptide Concentration: 5.0 ug/ml Lysate Quantity: 25ug/lane/lane Gel Concentration: 12% C10orf2 is supported by BioGPS gene expression data to be expressed in HeLa



## Successfully validated (Western Blotting (WB))

by [Mitochondrial Biology, University of Eastern Finland](#)

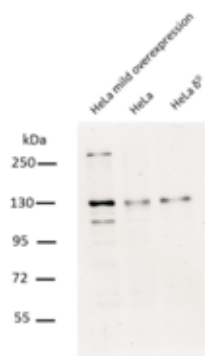
Report Number: 100038

Date: Aug 08 2016

|                     |  |
|---------------------|--|
| Target:             | PEO1 antibody - middle region  |
| Lot Number:         | QC6322   |
| Method validated:   | Western Blotting (WB)  |
| Positive Control:   | HeLa cells, HeLa cells overexpressing PEO1   |
| Negative Control:   | rho0 HeLa cells  |
| Notes:              | Passed, regarding sensitivity and specificity. The antibody detects an antigen at the expected apparent molecular weight of its antigen.   |
| Primary Antibody:   | ABIN2775251  |
| Secondary Antibody: | Goat-anti rabbit IgG (H+L), HRP-linked (Invitrogen, A-16104)   |
| Protocol:           | <ul style="list-style-type: none"> <li>Cell lysates were prepared from HeLa cells, HeLa cells overexpressing PEO1, and rho<sup>0</sup> HeLa cells.</li> <li>75µg total protein of each sample were separated on a denaturing 8% SDS-PAGE gel (Laemmli 1970).</li> <li>Immunoblot onto supported nitrocellulose membrane (Protran, GE Healthcare No. 1060005, 0.2µm) (Towbin et al., 1979).</li> <li>Blocking of the membrane in 3% skim milk in TBST (50mM Tris-HCl, pH 7.4, 150mM NaCl, 0.1% Tween 20) for 1h at room temperature.</li> <li>Incubation with primary antibody ABIN2775251 diluted 1:1000 in 3% BSA in TBST at 4°C overnight.</li> <li>Washing in TBST for 3x 5min.</li> <li>Incubation with goat-anti rabbit IgG (H+L), HRP-linked (Invitrogen, A-16104) diluted 1:15000 in 3% BSA in TBST for 1h at room temperature.</li> <li>Washing in TBST for 5x 10min.</li> <li>Chemiluminescence detection with luminol solution (250µg/ml Na-Luminol, 0,01% H<sub>2</sub>O<sub>2</sub>, 11µg/ml p-hydroxy-coumaric acid in 100mM Tris pH 8.5) and image capture on Kodak ECL film.</li> </ul> |
| Experimental Notes: | PEO1 runs usually at 95-100 kDa, although the theoretical size is 72 kDa, often it is also visible as dimer.   |

**Validation image no. 1 for anti-Chromosome 10 Open Reading Frame 2 (C10ORF2) (Middle Region) antibody (ABIN2775251)**

75µg total protein of HeLa cells overexpressing PEO1 (lane 1), HeLa cells (lane 2), and rho0 HeLa cells (lane 3) were separated on an denaturing 8% polyacrylamid gel. Bands were revealed as described in the protocol sections with ABIN2775251 diluted 1:1000.





## Successfully validated (Immunocytochemistry (ICC))

by [Mitochondrial Biology, University of Eastern Finland](#)

Report Number: 100039

Date: Aug 08 2016

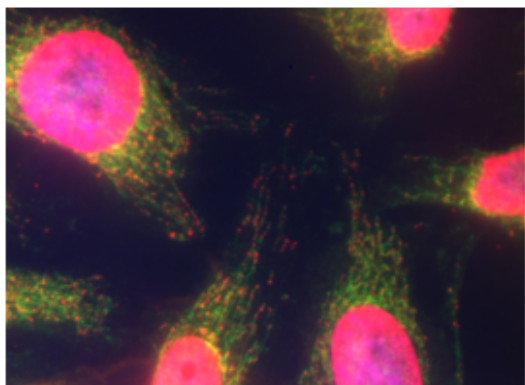
|                     |  |
|---------------------|--|
| Target:             | PEO1 antibody - middle region  |
| Lot Number:         | QC6322   |
| Method validated:   | Immunocytochemistry (ICC)  |
| Positive Control:   | Mouse-anti-ds DNA antibody (clone 35I9)  |
| Notes:              | Passed, regarding sensitivity and specificity. The antibody shows a staining pattern consistent with the expected mitochondrial localization of PEO1.  |
| Primary Antibody:   | ABIN2775251  |
| Secondary Antibody: | Goat-anti-Rabbit IgG (H+L) Secondary Antibody, Alexa Fluor 488 conjugate (Invitrogen, A-11034, Lot 702323)   |
| Protocol:           | <ul style="list-style-type: none"> <li>• HeLa cells were grown in DMEM high glucose + 10% FBS on acid-cleaned glass coverslips to 50% confluency.</li> <li>• Cells were fixed in 4% para-formaldehyde in growth medium for 25min at RT, then washed once with growth medium and twice with PBS.</li> <li>• Permeabilization was achieved by incubation with 0.5% Triton X-100, 10% fetal bovine serum in PBS for 15min.</li> <li>• Primary antibodies: <ul style="list-style-type: none"> <li>◦ ABIN2775251 diluted 1:200 in PBS with 0.1% Triton X-100 , 10% fetal bovine serum.</li> <li>◦ Co-staining of mitochondrial DNA with monoclonal antibody mouse-anti-dsDNA clone 35I9 DNA (Abcam ab27156, Lot GR27035-10) diluted 1:400 in PBS with 0.1% Triton X-100, 10% fetal bovine serum.</li> </ul> </li> <li>• Incubation for 1h at RT.</li> <li>• Wash 3x 5min with PBS.</li> <li>• Secondary antibodies: <ul style="list-style-type: none"> <li>◦ Goat anti-Rabbit IgG (H+L) Secondary Antibody, Alexa Fluor 488 conjugate (Invitrogen, A-11034, Lot 702323) diluted 1:1000 in PBS with 0,1% Triton X-100 , 10% fetal bovine serum, 1µM DAPI.</li> <li>◦ Goat anti-Mouse IgG (H+L) Secondary Antibody, Alexa Fluor 594 conjugate (Invitrogen, A-11032, Lot 621333).</li> </ul> </li> <li>• Incubation for 1h at RT.</li> <li>• Wash 3x 5min with PBS.</li> </ul> |

- The coverslips were mounted with Immu-mount mounting medium (Thermo Fisher, 9990402) and imaged with a 630 x magnification on a Zeiss Axioplan 2 fluorescent microscope using an Axiocam camera and Axiovision 4.8 software.
- For visualization of PEO1 the excitation wavelength was 488nm and emission wavelength >535nm, exposure time 53ms. DNA was visualized by excitation at 580nm and emission at >590nm, exposure time 410ms.

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## Image for Validation report #100039

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**Validation image no. 1 for anti-Chromosome 10 Open Reading Frame 2 (C10ORF2) (Middle Region) antibody (ABIN2775251)**

ABIN2775251 was used at a 1:200 dilution to visualize PEO1 (green, secondary antibody AF488 conjugate). A dsDNA antibody (red, secondary antibody AF594 conjugate) and a DAPI counterstain (blue) were used as reference.