Revision 1

Store at -20C

#13783

PELP1 Antibody

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W	H	Endogenous	160	Rabbit	#Q8IZL8	27043

Product Usage Information

Application	Dilution
Western Blotting	1:1000

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

PELP1 Antibody recognizes endogenous levels of total PELP1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Glu971 of human PELP1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

The transcription factor proline, glutamic acid, and leucine rich protein 1 (PELP1, MNAR) mediates cell signaling through direct interaction with hormone nuclear receptors to regulate target gene transcription. This versatile protein also regulates gene expression by participating in chromatin remodeling, and acts as a cytoplasmic scaffold protein to mediate growth factor and hormone signaling (1). Following its original description as an estrogen receptor α (ERα) coactivator (2), additional research showed that PELP1 corepresses multiple nuclear hormone receptors and transcriptional regulators, including progesterone receptor, glucocorticoid receptor, AP1, and Stat3 (3). PELP1 also acts cooperatively with the secondary coactivator CARM1 at ERα target gene promoters to increase ERα-mediated transactivation (4). The PELP1 protein contains several leucine-rich repeats, important for interaction with nuclear receptors, and a carboxy-terminal glutamic acid-rich domain responsible for histone protein interaction (2). The glutamic acid-rich region of PELP1 binds to hypoacetylated histones H3 and H4 to block interaction between histone proteins and acetyltransferases. This interaction maintains histones in a hypoacetylated state and suppresses serum-response gene activation. Interaction between PELP1 and ERα relieves this repression and promotes acetylation of histone proteins (3).

Research studies demonstrate altered regulation of PELP1 in several distinct hormone-dependent cancers, such as ovarian, breast, and prostate cancers (5-7). As a result, PELP1 may be a promising prognostic marker for hormone-dependent cancers, and inhibiting PELP1 expression or activity may prove beneficial in disrupting hormonal cancer initiation, progression, and metastasis (8).

Background References

1. Girard, B.J. et al. (2014) *Mol Cell Endocrinol* 382, 642-51.
2. Vadlamudi, R.K. et al. (2001) *J Biol Chem* 276, 38272-9.
3. Choi, Y.B. et al. (2004) *J Biol Chem* 279, 50930-41.
4. Mann, M. et al. (2013) *Carcinogenesis* 34, 1468-75.
5. Dimple, C. et al. (2008) *Cancer Res* 68, 4902-9.
6. Vadlamudi, R.K. et al. (2005) *Cancer Res* 65, 7724-32.
7. Nair, S.S. et al. (2007) *Mol Endocrinol* 21, 613-24.
8. Chakravarty, D. et al. (2010) *IUBMB Life* 62, 162-9.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting

Cross-Reactivity Key

H: Human

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