

## Product datasheet

# PER1 peptide ab5856

### 1 References

#### Description

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|---------------------|------------------|
| <b>Product name</b> | PER1 peptide     |
| <b>Purity</b>       | > 95 % SDS-PAGE. |
| <b>Animal free</b>  | No               |
| <b>Nature</b>       | Synthetic        |

#### Specifications

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Our [Abpromise guarantee](#) covers the use of **ab5856** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

|                     |             |
|---------------------|-------------|
| <b>Applications</b> | Blocking    |
| <b>Form</b>         | Lyophilized |

#### Additional notes

This peptide may be used for neutralization and control experiments with the polyclonal antibody that reacts with this product and mouse PER1, catalog [ab3443](#). Using a solution of peptide of equal volume and concentration to the corresponding antibody will yield a large molar excess of peptide (70-fold) for competitive inhibition of antibody-protein binding reactions.

#### Preparation and Storage

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|------------------------------|---|
| <b>Stability and Storage</b> | Shipped at 4°C. Store at -20°C or -80°C. Avoid freeze / thaw cycle. |
| <b>Reconstitution</b>        | Reconstitute with 0.1 ml of distilled water.                        |

#### General Info

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|---------------------------|---|
| <b>Function</b>           | Component of the circadian clock mechanism which is essential for generating circadian rhythms. Negative element in the circadian transcriptional loop. Influences clock function by interacting with other circadian regulatory proteins and transporting them to the nucleus. Negatively regulates CLOCK<br>NPAS2-BMAL1<br>BMAL2-induced transactivation. |
| <b>Tissue specificity</b> | Widely expressed. Found in heart, brain, placenta, lung, liver, skeletal muscle, pancreas, kidney,  |

spleen, thymus, prostate, testis, ovary and small intestine. Highest level in skeletal muscle. Low level in kidney.

#### **Sequence similarities**

Contains 1 PAC (PAS-associated C-terminal) domain.

Contains 2 PAS (PER-ARNT-SIM) domains.

#### **Post-translational modifications**

Phosphorylated on serine residues by CSNK1E. Also can be phosphorylated by the delta isoform. Phosphorylation by CSNK1 retains PER1 in the cytoplasm and leads to its ubiquitination and subsequent degradation. Phosphorylated upon DNA damage, probably by ATM or ATR. Ubiquitinated.

#### **Cellular localization**

Nucleus. Cytoplasm. Mainly nuclear. Nucleocytoplasmic shuttling is effected by interaction with other circadian core oscillator proteins and/or by phosphorylation. Retention of PER1 in the cytoplasm occurs through PER1-PER2 heterodimer formation or by interaction with CSNK1E and/or phosphorylation which appears to mask the PER1 nuclear localization signal. Also translocated to the nucleus by CRY1 or CRY2.

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