

**Anti-MARK2 pT595 (RABBIT) Antibody**  
**MARK2 phospho T595 Antibody**  
**Catalog # ASR5326****Specification**

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**Anti-MARK2 pT595 (RABBIT) Antibody - Product Information**

|                  |   |
|------------------|---|
| Host             | Rabbit  |
| Conjugate        | Unconjugated  |
| Target Species   | Human   |
| Reactivity       | Human   |
| Clonality        | Polyclonal  |
| Application      | WB, E, I, LCI   |
| Application Note | Anti-MARK2pT595 antibody has been tested for use in ELISA and western blot. Specific conditions for reactivity should be optimized by the end user. Expect a band at approximately 83 kDa corresponding to MARK2 by western blotting in the appropriate cell lysate or extract.         |
| Physical State   | Liquid (sterile filtered)   |
| Buffer           | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2  |
| Immunogen        | This affinity purified antibody was prepared from whole rabbit serum produced by repeated immunizations with a synthetic peptide corresponding to amino acids surrounding T595 of Human MARK2 isoform a. The immunogen peptide was phosphorylated at the residue corresponding to T595. |
| Preservative     | 0.01% (w/v) Sodium Azide  |

**Anti-MARK2 pT595 (RABBIT) Antibody - Additional Information****Gene ID** 2011**Other Names**  
2011**Purity**

MARK2 pT595 affinity purified antibody is directed against the phosphorylated form of human MARK2 at the pT595 residue. The product was affinity purified from monospecific antiserum by immunoaffinity chromatography. Antiserum was first purified against the phosphorylated form of the immunizing peptide. The resultant affinity purified antibody was then cross-adsorbed against the non-phosphorylated form of the immunizing peptide. Reactivity occurs against human MARK2 pT595 protein and the antibody is specific for the phosphorylated form of the protein. Reactivity with non-phosphorylated human MARK2 is minimal by ELISA. Expect at least partial reactivity with other isoforms of MARK. The immunogen sequence is present in all forms identified to date and localizes to T595 on MARK2, T587 on MARK3, T591 on MARK1 and T568 on MARK4. A BLAST analysis was used to suggest reactivity with this protein from human, dog, bovine, mouse and rat

sources based on 100% homology for the immunogen sequence. Cross reactivity with MARK2 homologues from other sources has not been determined.

### Storage Condition

Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

### Precautions Note

This product is for research use only and is not intended for therapeutic or diagnostic applications.

## Anti-MARK2 pT595 (RABBIT) Antibody - Protein Information

**Name** MARK2 {ECO:0000312|EMBL:AAH08771.2}

**Synonyms** EMK1

### Function

Serine/threonine-protein kinase (PubMed:<a href="http://www.uniprot.org/citations/23666762" target="\_blank">23666762</a>). Involved in cell polarity and microtubule dynamics regulation. Phosphorylates CRTC2/TORC2, DCX, HDAC7, KIF13B, MAP2, MAP4 and RAB11FIP2. Phosphorylates the microtubule-associated protein MAPT/TAU (PubMed:<a href="http://www.uniprot.org/citations/23666762" target="\_blank">23666762</a>). Plays a key role in cell polarity by phosphorylating the microtubule-associated proteins MAP2, MAP4 and MAPT/TAU at KXGS motifs, causing detachment from microtubules, and their disassembly. Regulates epithelial cell polarity by phosphorylating RAB11FIP2. Involved in the regulation of neuronal migration through its dual activities in regulating cellular polarity and microtubule dynamics, possibly by phosphorylating and regulating DCX. Regulates axogenesis by phosphorylating KIF13B, promoting interaction between KIF13B and 14-3-3 and inhibiting microtubule-dependent accumulation of KIF13B. Also required for neurite outgrowth and establishment of neuronal polarity. Regulates localization and activity of some histone deacetylases by mediating phosphorylation of HDAC7, promoting subsequent interaction between HDAC7 and 14-3-3 and export from the nucleus. Also acts as a positive regulator of the Wnt signaling pathway, probably by mediating phosphorylation of dishevelled proteins (DVL1, DVL2 and/or DVL3). Modulates the developmental decision to build a columnar versus a hepatic epithelial cell apparently by promoting a switch from a direct to a transcytotic mode of apical protein delivery. Essential for the asymmetric development of membrane domains of polarized epithelial cells.

### Cellular Location

Cell membrane; Peripheral membrane protein. Cytoplasm. Lateral cell membrane. Cytoplasm, cytoskeleton. Cell projection, dendrite. Cytoplasm. Note=Phosphorylation at Thr-596 by PRKCZ/aPKC and subsequent interaction with 14-3-3 protein YWHAZ promotes relocation from the cell membrane to the cytoplasm

### Tissue Location

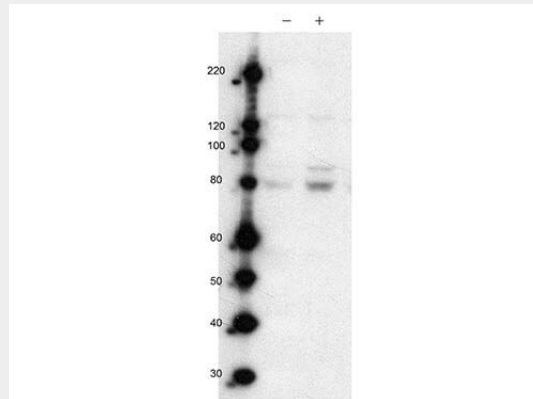
High levels of expression in heart, brain, skeletal muscle and pancreas, lower levels observed in lung, liver and kidney

## Anti-MARK2 pT595 (RABBIT) Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### Anti-MARK2 pT595 (RABBIT) Antibody - Images



Western Blot of Rabbit anti-MARK2pT595 antibody. Lane 1: wild type Jurkat cells. Lane 2: wild type Jurkat cells stimulated with CD3/CD28 (T-cell receptor stimulation). Load: 35  $\mu$ g per lane. Primary antibody: MARK2 pT595 antibody at 1:500 for overnight at 4°C. Secondary antibody: IRDye800™ rabbit secondary antibody at 1:10,000 for 45 min at RT. Block: 5% BLOTTO overnight at 4°C. Predicted/Observed size: ~83 kDa for MARK2pT595.

#### Anti-MARK2 pT595 (RABBIT) Antibody - Background

MARK2 pT595 antibody is designed, produced, and validated as part of a collaboration between Rockland and the National Cancer Institute (NCI) and is suitable for Cancer, Immunology and Nuclear Signaling research. This antibody recognizes a regulatory phosphorylation on a kinase that is critical to regulation of microtubules, cell cycle and immune responses. MARK2 refers to MAP/microtubule affinity-regulating kinase 2 isoform a [Homo sapiens]. EMK (ELKL Motif Kinase) is a small family of ser/thr protein kinases involved in the control of cell polarity, microtubule stability and cancer. Several cDNA clones have been isolated that encode two isoforms of the human ser/thr protein kinase EMK1 called MARK2. These isoforms were characterized by the presence of a 162-bp alternative exon that gives rise to two forms, one containing the exon and the other one lacking it. Both forms were found to be co-expressed in a number of selected cell lines and tissue samples. Human MARK2 was shown to be encoded by a single mRNA that is ubiquitously expressed. This transcription variant includes the alternative exon in the coding region and therefore codes for a longer protein. Multiple splice variants exist for this protein.