

#### DESCRIPTION

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| <b>Species Reactivity</b>                                                                                                                                                                               | Human                                                                                             |
| <b>Specificity</b>                                                                                                                                                                                      | Detects human CDK5 Activator 1 in direct ELISAs.                                                  |
| <b>Source</b>                                                                                                                                                                                           | Polyclonal Sheep IgG                                                                              |
| <b>Purification</b>                                                                                                                                                                                     | Antigen Affinity-purified                                                                         |
| <b>Immunogen</b>                                                                                                                                                                                        | <i>E. coli</i> -derived recombinant human CDK5 Activator 1<br>Gln100-Arg307<br>Accession # Q15078 |
| <b>Conjugate</b>                                                                                                                                                                                        | Alexa Fluor 647<br>Excitation Wavelength: 650 nm<br>Emission Wavelength: 668 nm                   |
| <b>Formulation</b>                                                                                                                                                                                      | Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide                                      |
| *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions. |                                                                                                   |

#### APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

**Immunohistochemistry** Optimal dilution of this antibody should be experimentally determined.

#### PREPARATION AND STORAGE

|                                |                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Shipping</b>                | The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below. |
| <b>Stability &amp; Storage</b> | Protect from light. Do not freeze. 12 months from date of receipt, 2 to 8 °C as supplied                          |

#### BACKGROUND

Cyclin dependent kinase 5 regulatory subunit 1 (CDK5R1) is a 35 kDa protein that associates with and activates CDK5. Its expression is restricted to neurons and is required for normal brain development. CDK5R1 can be cleaved by calpain at Phe98-Ala99 which liberates a C-terminal fragment known as p25. p25 induces prolonged activation of CDK5 and broadens the substrate specificity of CDK5 to include tau which is aberrantly phosphorylated in Alzheimer's disease. Full length CDK5R1 is myristoylated at Gly2 and is preferentially localized to membranes at the cell periphery. p25 lacks this modification and is enriched in the nucleus and perinuclear regions. p25 accumulates in the brains of Alzheimer's patients where it promotes neuronal apoptosis and cytoskeletal abnormalities. Within aa 100-307, human CDK5R1 shares 99% aa sequence identity with mouse and rat CDK5R1.

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