

## DESCRIPTION

|                           |   |
|---------------------------|---|
| <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>Formulation</b>        | Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.<br>*Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS. |

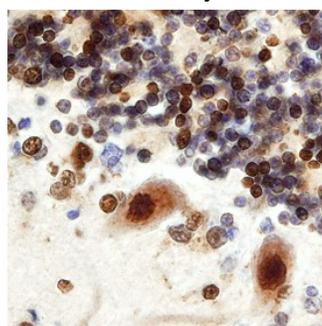
## APPLICATIONS

**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.

|                             | <b>Recommended Concentration</b> | <b>Sample</b> |
|-----------------------------|----------------------------------|---------------|
| <b>Immunohistochemistry</b> | 5-15 µg/mL                       | See Below     |

## DATA

### Immunohistochemistry



**CDK5 Activator 1 in Human Brain.** CDK5 Activator 1 was detected in immersion fixed paraffin-embedded sections of human brain (cerebellum) using Sheep Anti-Human CDK5 Activator 1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF7250) at 10 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Sheep HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS019) and counter-stained with hematoxylin (blue). Specific staining was localized to nuclei in neuronal cells. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

## PREPARATION AND STORAGE

|                                |  |
|--------------------------------|--|
| <b>Reconstitution</b>          | Sterile PBS to a final concentration of 0.2 mg/mL.   |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.<br>*Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C   |
| <b>Stability &amp; Storage</b> | <b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

## 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.