



## CDK5/p25 (Human), Active

Full-length recombinant protein expressed in Sf9 cells

Cat# CY-SPC33

Lot No.  
5 µg 0.1 µg/µl

### Background:

CDK5 is a member of the Cyclin-Dependent Kinase family that is most abundant in the mammalian brain. Active form of CDK5, which has also been called neuronal cdc2-like kinase, is a heterodimer of CDK5 and a 25 kDa protein which is derived proteolytically from a 35 kDa brain and neuron-specific protein and is essential for the kinase activity of CDK5 (1). CDK5 has emerged as a crucial regulator of neuronal migration in the developing central nervous system. CDK5 phosphorylates a diverse list of substrates, implicating it in the regulation of a range of cellular processes - from adhesion and motility, to synaptic plasticity and drug addiction (2).

### Product Description:

Recombinant full-length human CDK5 and human p25 were co-expressed by baculovirus in Sf9 cells using an N-terminal GST tag. The gene accession numbers for CDK5 and p25 are NM\_004935 and NM\_003885, respectively.

### Gene Aliases:

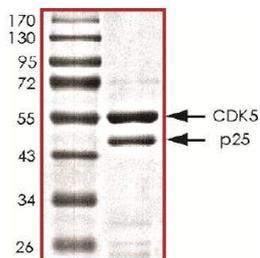
PSSALRE  
CDK5R1; CDK5P35, CDK5R, NCK5A, p23, p35, p35nck5a

### Formulation:

Recombinant protein stored in 50mM Tris-HCl, pH 7.5, 150mM NaCl, 0.25mM DTT, 0.1mM EGTA, 0.1mM EDTA, 0.1mM PMSF, 25% glycerol.

### Purity & Molecular Weight:

The purity was determined to be >95% by densitometry.  
CDK5 Approx. MW 59kDa and p25 Approx. MW 49kDa.



### Storage:

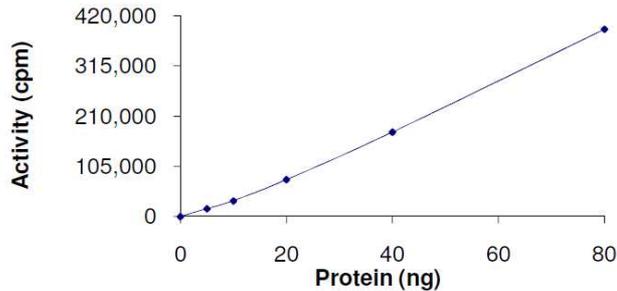
Store product at -70 °C. For optimal storage, aliquot target into smaller quantities after centrifugation and store at recommended temperature. For most favorable performance, avoid repeated handling and multiple freeze/thaw cycles.

**Stability:**

1 year at  $-70^{\circ}\text{C}$  from date of shipment.

**Specific Activity:**

The specific activity was determined to be 595 nmol /min/mg as per Activity Assay Protocol.

**Activity Assay Protocol:**

Assay activity of the kinase in a 25  $\mu\text{L}$  reaction consisting of 5  $\mu\text{L}$  of 5 X Kinase Assay Buffer, 10  $\mu\text{L}$  of 1 mg/ml the Substrate Solution, 5  $\mu\text{L}$  of diluted kinase and 5  $\mu\text{L}$  of 250  $\mu\text{M}$  ATP solution containing [ $\gamma$   $^{32}\text{P}$ ] ATP (0.167  $\mu\text{Ci}/\mu\text{L}$ ). Start the reaction by adding the ATP solution. Incubate for 15 minutes at  $30^{\circ}\text{C}$ . Terminate the reaction by spotting 20  $\mu\text{L}$  of the reaction mixture onto phosphocellulose P81 paper. Air-dry the P81 paper and sequentially wash 4 times for approximately 10 minutes each in 1% phosphoric acid with constant gentle stirring. Count the P81 paper in a liquid scintillation counter.

**Substrate Solution:**

Histone H1 diluted in distilled  $\text{H}_2\text{O}$  to a final concentration of 1mg/ml.

**5 X Kinase Assay Buffer:**

25mM MOPS pH 7.2, 12.5mM  $\beta$ -glycerol-phosphate, 25mM  $\text{MgCl}_2$ , 5mM EGTA, 2mM EDTA. Add 0.25mM DTT to Kinase Assay Buffer prior to use.

**References:**

- 1.Tang, D. et al: Cyclin-dependent kinase 5 (Cdk5) and neuron-specific Cdk5 activators. Prog Cell Cycle Res. 1996;2:205-16.
- 2.Dhavan, R. et al: A decade of CDK5. Nat Rev Mol Cell Biol. 2001 Oct;2(10):749-59.

**CycLex Co., Ltd**

1063-103 Tera-Sawaoka, Ina, Nagano, Japan 396-0002

Fax: 81-265-76-7618

e-mail: [info@cyclex.co.jp](mailto:info@cyclex.co.jp)

URL: <http://www.cyclex.co.jp>