# Product Data Sheet

## Purified anti-CAK (cdk7)-Phosphorylated (Ser167/Thr170)

**Catalog #/ Size:** 632401 / 25 µl
632402 / 100 µl

**Clone:** Poly6324

**Isotype:** Rabbit IgG

**Immunogen:** Modified peptide

**Reactivity:** Human

**Preparation:** The antibody was purified by antigen-affinity chromatography.

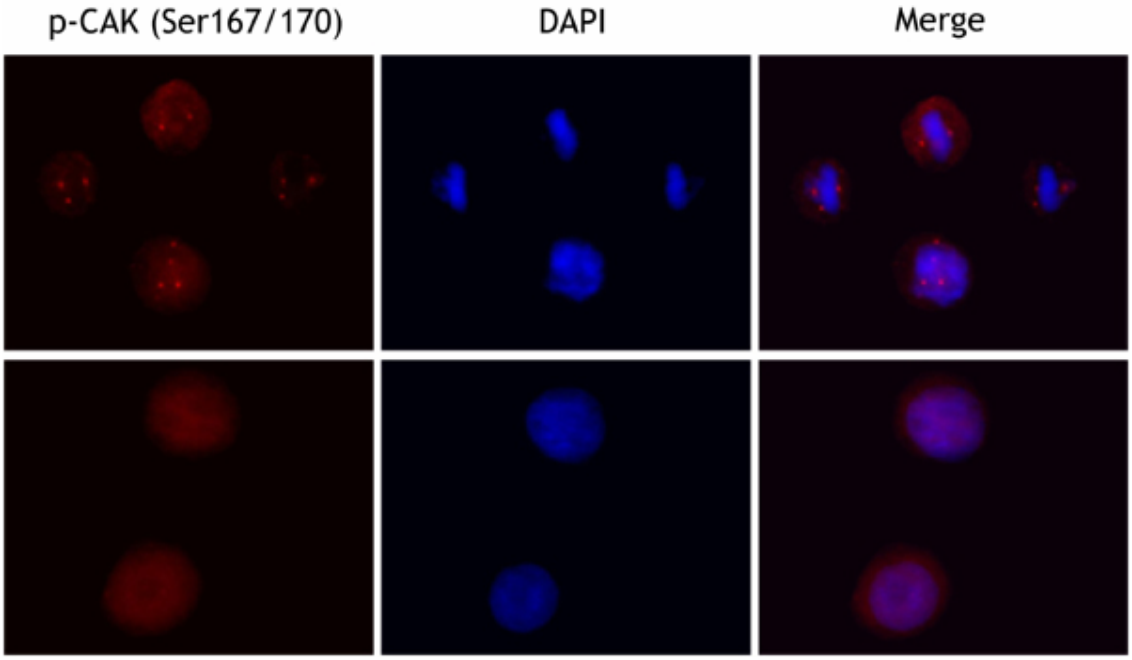
**Formulation:** This antibody is provided in phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 50% glycerol.

**Storage:** Upon receipt, store frozen at -20° C.

# Applications

**Applications:** IF

**Recommended Usage:** Each lot of this antibody is quality control tested by immunofluorescence staining. For immunofluorescence microscopy: Use a dilution range of 1:100~1:400. It is recommended that the reagent be titrated for optimal performance for each application.




Untreated Hela cells (Lower Panel), or overnight nocodazole treated Hela cells (Upper Panel) stained with purified rabbit polyclonal antibody against Ser167/Thr170 phosphorylated CAK, followed by Rhodamine Red-X conjugated goat anti-rabbit IgG and DAPI.

# Antigen Information

**Other Names:** Cyclin-dependent kinase 7, CDK-activating kinase (CAK)

**Structure:** Serine/Threonine family of protein kinases, CDC2/CDKX subfamily; 40 kD

**Distribution:** Nuclear

**Function:** Activates cyclin-associated kinases CDC2/CDK1, CDK2, CDK4, CDK6 by threonine phosphorylation. Controls cell cycle progression, DNA repair, RNA polymerase II transcription

**Regulation:** Activated by phosphorylation at Thr170. Inactivated by phosphorylation at Ser164

**Modification:** Phosphorylation

**Interaction:** Cyclin H, MAT1 to form CAK complex, CAK complex with core-TFIIH forms TFIIH basal transcription factor

**Description:** CAK (also known as CDK-activating kinase, CDK7 and cell division protein kinase 7 is a 40 kD nuclear protein that is a member of the serine/threonine family of protein kinases, CDC2/CDKX subfamily. CAK activates cyclin-associated kinases CDC2/CDK1, CDK2, CDK4, CDK6 by threonine phosphorylation and controls cell cycle progression, DNA repair, and RNA polymerase II transcription. CAK is activated by phosphorylation at Thr170 and is inactivated by phosphorylation at Ser164. CAK has been reported to interact with cyclin H and MAT1 to form the CAK complex, the CAK complex then interacts with core-TFIIH to form the TFIIH basal transcription factor. The Poly6324 antibody is useful for immunofluorescence microscopy of human CAK protein.

**Antigen References:**

1. Tassan, J., *et al.*, 1994. J. Cell. Biol. 127:467.
2. Tirode, F., *et al.*, 1999. *Mol Cell.* 3:87.
3. Akoulitchev, S., *et al.*, 1998. *Genes Dev.* 12:3541.
4. Chen, J., *et al.*, 2003. *Nature*. 424:228.