

Cks1/2 (FL-79): sc-6238

BACKGROUND

The Cdc2 p34-cyclin B complex plays a critical role in the cell cycle by regulating the G₂ to M phase transition. Also referred to as M phase promoting factor or MPF, this complex is a required component of the cell cycle machinery and is necessary for cell entry into mitosis. The Cdc28 protein represents the *S. cerevisiae* counterpart of human Cdc2 p34 and has been found complexed to a regulatory protein, termed p13suc 1, in addition to cyclin B. Two proteins associated with the Cdc2 p34-cyclin B complex are called Cks1 and Cks2. Null mutations in the p13suc 1 and Cks1 genes result in the arrest of the cell cycle at either the G₁ or G₂ phase, suggesting that the proteins may also regulate the activity of cyclin dependent kinases that act at critical points early in the cell cycle. Cks2 (cyclin-dependent kinases regulatory subunit 2) is a 79 amino acid protein that binds to the catalytic subunit of cyclin-dependent kinases, such as those in the Cdc2 p34-cyclin B complex. An essential component of this cyclin/cyclin-dependent kinase complex, Cks2 contributes to cell cycle control and is able to form a homohexamer that can bind up to six subunits. Without proper activity of Cks2, the first metaphase/anaphase transition of meiosis cannot occur.

CHROMOSOMAL LOCATION

Genetic locus: CKS1B (human) mapping to 1q21.3, CKS2 (human) mapping to 9q22.2; Cks2 (mouse) mapping to 13 A5, Cks1b (mouse) mapping to 3 F1.

SOURCE

Cks1/2 (FL-79) is a rabbit polyclonal antibody raised against amino acids 1-79 representing full length Cks1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cks1/2 (FL-79) is available conjugated to agarose (sc-6238 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-6238 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to fluorescein (sc-6238 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

In addition, Cks1/2 (FL-79) is available conjugated to TRITC (sc-6238 TRITC, 200 µg/ml), for IF, IHC(P) and FCM.

APPLICATIONS

Cks1/2 (FL-79) is recommended for detection of Cks1 and Cks2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Cks1/2 (FL-79) is also recommended for detection of Cks1 and Cks2 in additional species, including equine, canine, bovine, porcine and avian.

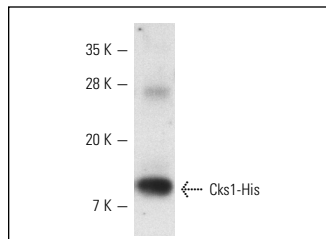
Molecular Weight of Cks1: 9 kDa.

Molecular Weight of Cks2: 10 kDa.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



Cks1/2 (FL-79): sc-6238. Western blot analysis of His-tagged human recombinant Cks1.

SELECT PRODUCT CITATIONS

1. Foster, J.S., et al. 2003. Estrogens downregulate p27^{Kip1} in breast cancer cells through Skp2 and through nuclear export mediated by the ERK pathway. *J. Biol. Chem.* 278: 41355-41366.
2. Okubo, E., et al. 2003. Negative regulation of mitotic promoting factor by the checkpoint kinase Chk1 in simian virus 40 lytic infection. *J. Virol.* 77: 1257-1267.
3. Delobel, P., et al. 2006. Cell-cycle markers in a transgenic mouse model of human tauopathy: increased levels of cyclin-dependent kinase inhibitors p21^{Cip1} and p27^{Kip1}. *Am. J. Physiol.* 168: 878-887.
4. Hattori, T., et al. 2007. Pirh2 promotes ubiquitin-dependent degradation of the cyclin-dependent kinase inhibitor p27^{Kip1}. *Cancer Res.* 67: 10789-10795.
5. Tempe, D., et al. 2007. The α helix of ubiquitin interacts with yeast cyclin-dependent kinase subunit Cks1. *Biochemistry* 46: 45-54.
6. Kawakami, K., et al. 2007. Increased SKP2 and CKS1 gene expression contributes to the progression of human urothelial carcinoma. *J. Urol.* 178: 301-307.
7. Wu, W., et al. 2009. Antibody array analysis with label-based detection and resolution of protein size. *Mol. Cell. Proteomics* 8: 245-257.
8. Mateo, F., et al. 2009. Degradation of cyclin A is regulated by acetylation. *Oncogene* 28: 2654-2666.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

MONOS
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Try **Cks1/2 (F-12): sc-376663** or **Cks2 (3B3): sc-81833**, our highly recommended monoclonal alternatives to Cks1/2 (FL-79).