Technical Data Sheet

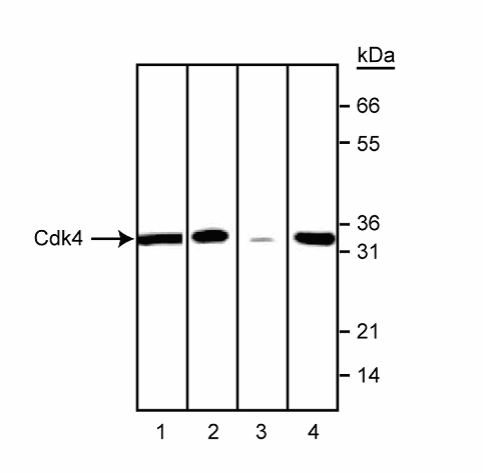
Purified Rat Anti-Cdk4

Product Information

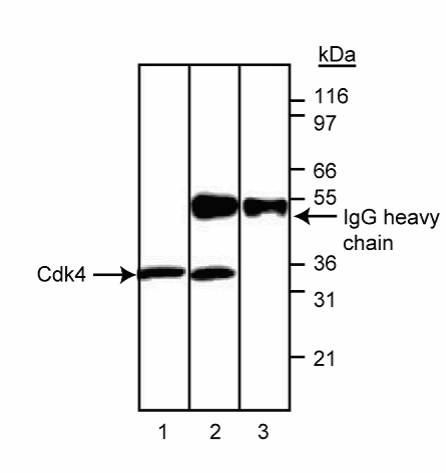
Material Number:	**554132**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	ACD1
Immunogen:	Recombinant Mouse cdk4
Isotype:	Rat IgG1, κ
Reactivity:	QC Testing: Human, Mouse
Target MW:	32 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

Cyclins and cyclin-dependent kinases (cdks) are essential for cell-cycle control in eukarytotes. Cyclins, regulatory subunits, bind to cyclin-dependent kinases (cdks), catalytic subunits, to form active cyclin-cdk complexes. Cdk subunits by themselves are inactive and binding to a cyclin is required for their activity. Cyclins A, B1, D, and E undergo periodic synthesis and degradation, thereby providing a mechanism to regulate cdk activity throughout the cell cycle. Additionally, cdk activity is further regulated by activating and inhibitory phosphorylations, and small proteins called inhibitors of cdk activity, that bind to cyclins, Cdks, or cyclin-cdk complexes. Cdk4 was originally called PSK-J3, and following demonstration of its association with D-type cyclins, became known as Cdk4.2 D-type cyclins also associate with Cdks 2 and 5, although Cdk4 appears to be the most abundant partner. The D-type cyclins (D1, D2, and D3) are expressed in response to growth factors or mitogens, and rapidly degrade when mitogens are withdrawn. D cyclins appear to promote G0 to G1 transitions and the rate of G1 progression. For example, cyclin D-Cdk4 and cyclin D-Cdk6 complexes phosphorylate the retinoblastoma protein (Rb) which removes the G1 phase block caused by underphosphorylated Rb. ACD1 recognizes mouse and human Cdk4. Recombinant full-length mouse cdk4 was used as an immunogen.



Western blot analysis of Cdk4 in mouse and human cell lysates using anti-Cdk4 (Cat. No. 554132). *Lane 1, mouse 3T3 cells; lane 2, 293 human embryonic kidney cells; lane 3, HeLa human cervical carcinoma cells; lane 4, Saos-2 human osteogenic sarcoma cells. Anti-Cdk4 identifies Cdk4 as an ~32 kD band.*



Immunoprecipitation/western blot analysis of dk4 using mouse 3T3 cells. *Lane 1, WB using anti-Cdk4, clone ACD1. 3T3 cell lysates were immunoprecipitated with either ACD1 (lane 2) or a Rat IgG isotype control (lane 3). The immune complexes were analyzed by western blot analysis using ACD1, which identifies Cdk4 as an ~32 kD band.*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

Application Notes

Application

Western blot	Routinely Tested
Immunoprecipitation	Tested During Development

BD Biosciences

bdbiosciences.com

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	888.259.0187	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country-specific contact information, visit **bdbiosciences.com/how_to_order/**

Recommended Assay Procedure:

Applications include immunoprecipitation (1-2 µg/1x10^6 cells) and western blot analysis (1-2 µg/ml). HeLa carcinoma cells (ATCC CCL-2), Saos-2 osteosarcoma cells (ATCC HTB-85), 293 adenovirus-transformed cells (ATCC CRL-1573), and NIH/3T3 (ATCC CRL-1658) are suggested as positive controls.

Suggested Companion Products

Catalog Number	Name	Size	Clone
611452	NIH 3T3 Cell Lysate	500 µg	(none)
611449	HeLa Cell Lysate	500 µg	(none)

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

Grana X, Reddy EP. Cell cycle control in mammalian cells: role of cyclins, cyclin dependent kinases (CDKs), growth suppressor genes and cyclin-dependent kinase inhibitors (CKIs). *Oncogene.* 1995; 11(2):211-219.(Biology)

Matsushime H, Ewen ME, Strom DK, et al. Identification and properties of an atypical catalytic subunit (p34PSK-J3/cdk4) for mammalian D type G1 cyclins. *Cell.* 1992; 71(2):323-334.(Biology)