

# Cell Cycle Regulation Antibody Sampler Kit

Cat# AK0200

Upon receipt, store at -20°C. Avoid freeze/thaw cycles.

## PRODUCT DESCRIPTION

Eukaryotic cell cycle progression is dependent, in part, on the tightly regulated activity of cyclin dependent kinases (CDKs). Cyclin D/CDK4/6 activity occurs in mid-late G1 phase, upstream of CDK2/cyclin E activity. Both of these activities are required for hyperphosphorylation of the retinoblastoma gene product (pRb). pRb phosphorylation allows the release of S phase-promoting transcription factors and is indicative of the cell's commitment to proliferate. This point in the cell cycle is known as the restriction point. Cyclin protein levels oscillate throughout the cell cycle, and their availability is a means of controlling CDK activity and cell proliferation. Cyclin D is degraded through the ubiquitin proteasome pathway in the absence of mitogenic signaling. Ubiquitination of cyclin D1 is enhanced by phosphorylation at Thr286 by glycogen synthase kinase 3b (GSK-3b). p27/Kip1, p57 Kip2 and p21 Waf1/Cip1 are members of the Cip/Kip family of cyclin-dependent kinase inhibitors. They form heterotrimeric complexes with cyclins and CDKs, inhibiting kinase activity and blocking progression through G1/S phase. However, p21 may enhance assembly and activity of cyclin D/CDK4/6 complexes. Levels of p21 and p27 protein are controlled through ubiquitination and proteasomal degradation. Levels of p27 are upregulated in quiescent cells and in cells treated with negative cell cycle regulators. p27 nuclear localization is controlled by Akt-dependent phosphorylation at Thr157. The inhibitors of CDK4 (INK4) family include p15 INK4B, p16 INK4A, p18 INK4C, and p19 INK4D. All INK4 proteins selectively inhibit CDK4/6 activity, either in a binary complex, or in a ternary complex including cyclin D, resulting in inhibition of cell division.

## PRODUCT INCLUDES

Cat No.	Product name	Quantity	Applications	Reactivity	Host
A340744	CDK2 Polyclonal Antibody	20µL	WB, IHC	Human, Mouse	Rabbit
A340745	p21 Polyclonal Antibody	20µL	WB, ELISA	Human	Rabbit
A340712	CDK4 Polyclonal Antibody	20µL	WB, ELISA	Human, Mouse, Rat	Rabbit
A340612	p18 Polyclonal Antibody	20µL	WB, IHC, ELISA	Human, Mouse, Monkey	Rabbit

<b>A1013s</b>	Goat Anti-Rabbit IgG (H+L) (peroxidase/HRP conjugated)	120μL	WB, ELISA	Rabbit	Goat
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## **PRODUCT USE LIMITATION**

These products are intended for research use only.