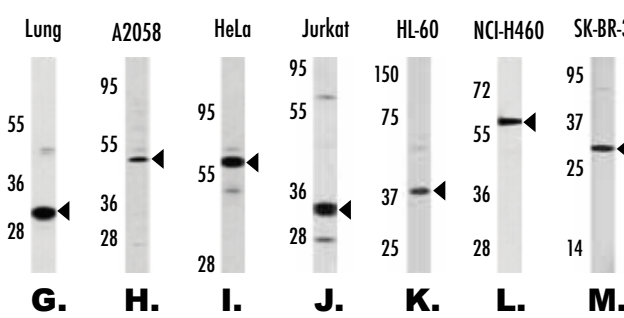
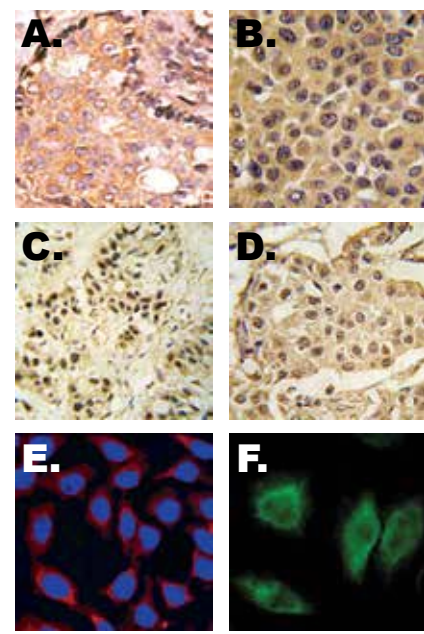


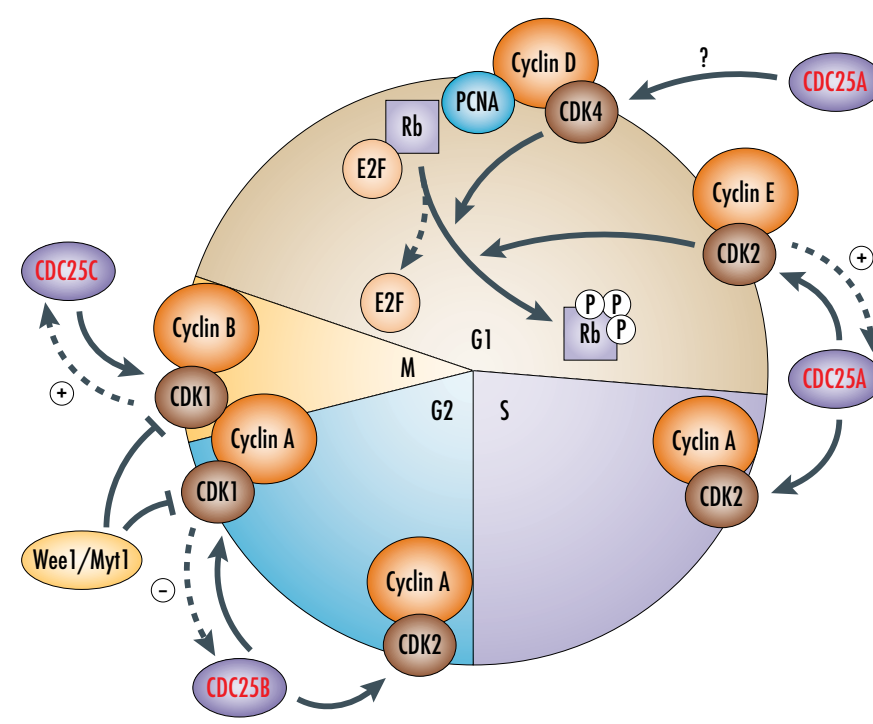
ABGENT has hundreds of phosphorylation-related antibodies which cover key targets for cell cycle control, development/differentiation, and signal transduction. Visit [www.abgent.com](http://www.abgent.com) for a complete listing.

## Selected Abgent Products

Figure	Target	Tissue/Cell line	Cat#
A.	DUSP4	Human breast carcinoma	AP8447b
B.	CDC25B	Human breast carcinoma	AP7256c
C.	CDK1	Human breast carcinoma	AP7517d
D.	CDK6	Human breast carcinoma	AP7522b
E.	PDGFRA	Human carcinoma (HeLa)	AP7666j
F.	DUSP6	Human carcinoma (HeLa)	AT1830a
G.	Cyclin D1	Mouse lung tissue lysate	AP2612d
H.	Cyclin E1	A2058 cell line lysate	AP6270b
I.	CDC25A	HeLa cell line lysate	AP6272c
J.	CDK2	Jurkat cell line lysate	AP7518b
K.	CDK4	HL-60 cell line lysate	AP7520b
L.	Cyclin B1	NCI-H460 cell line lysate	AP7598a
M.	DUSP3	SK-BR-3 cell line lysate	AP8478a



## Dual-specificity phosphatases



**Fig. 1 CDC25 phosphatases promote mammalian cell-cycle progression.** Dual-specificity phosphatases (DUSPs) have a central role in the complex regulation of signaling pathways that are involved in cell stress responses, proliferation and death (1). The cell-division cycle 25 (CDC25) family of DUSPs regulates cell-cycle progression by dephosphorylating and activating cyclin-dependent kinases (CDKs). In the event of DNA damage, CDC25 are key targets of the checkpoint machinery that ensures genetic stability. Inactive CDKs are phosphorylated at adjacent threonine and tyrosine residues near their amino termini. Dephosphorylation at both sites by CDC25 phosphatases catalyzes their activation and allows the CDKs to propagate cell-cycle signal transduction (1-12). Indicated in red are the protein targets for ABGENT's antibody products.

## Examples for dual-specificity phosphatases and their biological functions

Gene	Name	Role in nuclear signaling	Cellular process / disease
CDC25A, B, C	cell-division cycle 25	DNA damage	Cell cycle control, checkpoint pathways
CDC14A, B, C	cell division cycle 14	p53 regulation	Cell cycle control, cytokinesis, cancer
PTEN	phosphatase and tensin homolog	DNA repair	Cell cycle control, chromosome stability
PTPN11	SHP2	Transcriptional regulation	Mitogenic activation, metabolic control
DUSP1	dual-specificity phosphatase 1	Transcriptional regulation	Cell cycle control, immune response
DUSP2	dual-specificity phosphatase 2	Nuclear accumulation of ERK	Immune response, heat shock
DUSP4	dual-specificity phosphatase 4	Nuclear accumulation of ERK	Control of cell cycle and MAP kinases
DUSP5	dual-specificity phosphatase 5	Nuclear translocation	Immune response
DUSP6	dual-specificity phosphatase 6	FGF signaling to the nucleus	Development, postnatal lethality
DUSP7	dual-specificity phosphatase 7	FGF signaling to the nucleus	Development
DUSP9	dual-specificity phosphatase 9	Transcriptional regulation	Development
DUSP10	dual-specificity phosphatase 10	Transcriptional regulation	Immune response
DUSP12	dual-specificity phosphatase 12	Heat stress response	Cell survival, diabetes
DUSP14	dual-specificity phosphatase 14	Transcriptional regulation	Immune response, CD28 signaling
DUSP22	dual-specificity phosphatase 22	STAT3 activation, ERK signaling	Immune response, proliferation
EPW2A	laforin	$\beta$ -catenin accumulation in nucleus	Lafora progressive myoclonus epilepsy

## Overexpression of CDC25 in cancer

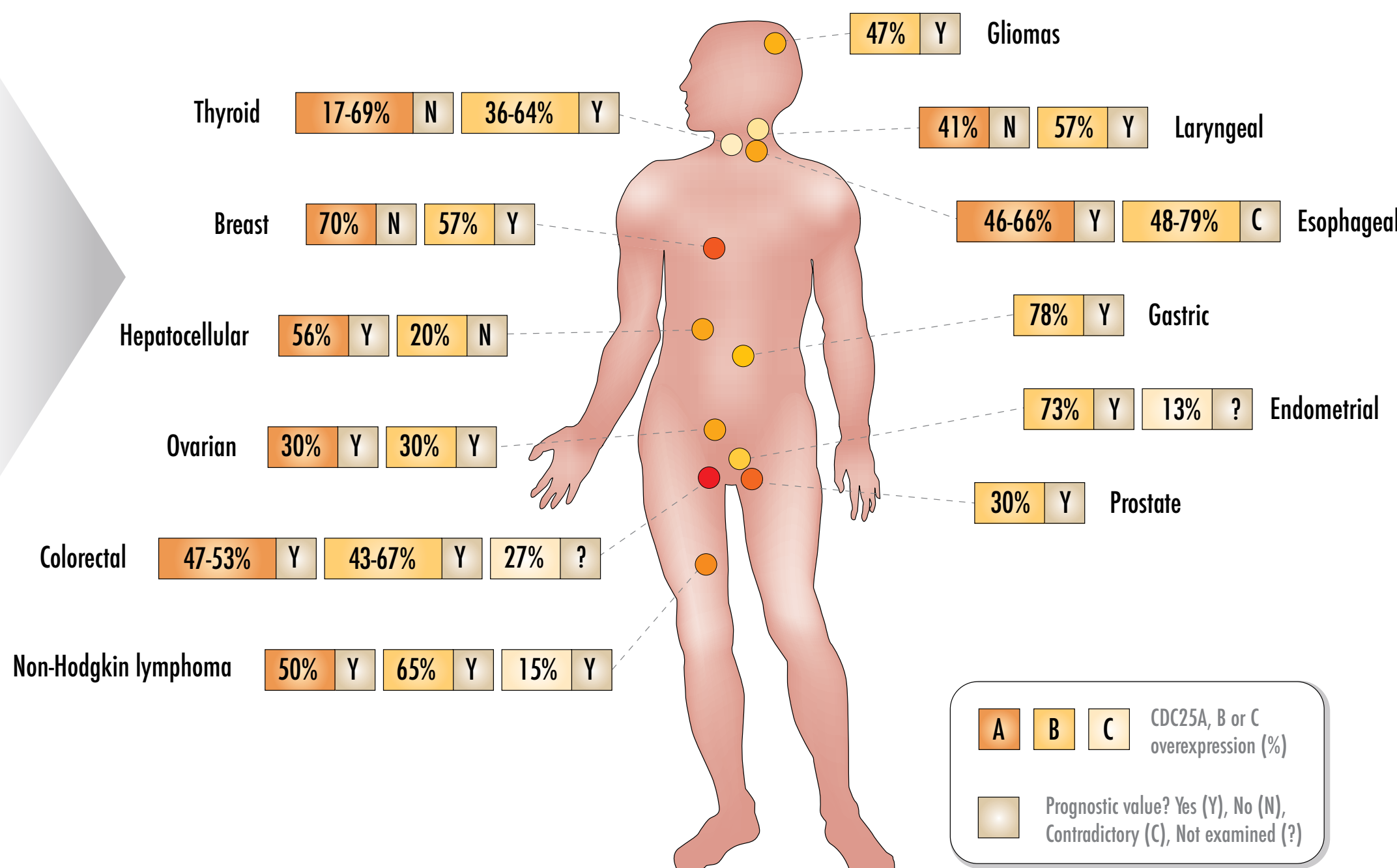


Fig. 2

