

## Product datasheet

# Cell Cycle and Apoptosis WB Cocktail (pCdk/pHH3/Actin/PARP) ab139417

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### Overview

**Product name** Cell Cycle and Apoptosis WB Cocktail (pCdk/pHH3/Actin/PARP)

**Species reactivity** **Reacts with:** Human

**Product overview** The Cell Cycle & apoptosis western blot cocktail (ab139417) is designed to provide a rapid assessment of cell cycle distribution and apoptosis induction based on molecular markers for the G1/S and M phases of the cell cycle and the presence of cleaved PARP. This is a mixture of four highly specific monoclonal primary antibodies targeting Cdk2 pTyr15, Histone H3 pSer10, cleaved-PARP and Actin. Cyclin-dependent kinase 2 (Cdk2) is maintained in an inactive state in G1/S by inhibitory phosphorylation on Tyr15. Histone H3 is phosphorylated at Ser10 when chromosomes condense during mitosis. Hence, elevated Cdk2 pTyr15 indicates G1/S arrested cells and elevated Histone H3 pSer10 indicates M-phase arrested cells when compared to asynchronous cycling control cells. Poly [ADP-ribose] polymerase 1 (PARP) is a DNA repair enzyme that is cleaved by activated caspases, hence cleaved-PARP indicates induction of apoptosis. An anti- Actin antibody is included as a loading control. These four readouts are easily resolved by western blot given their different molecular weights. Because this western blot cocktail is a mix of rabbit and mouse monoclonal primary antibodies, a secondary antibody cocktail of HRP conjugated antibodies (anti-mouse and anti-rabbit) is provided.

**Tested applications** **Suitable for:** WB

### Properties

**Storage instructions** Store at -20°C. Please refer to protocols.

Components	200 µl
2500X HRP Conjugated Secondary Antibody Cocktail	1 x 50µl
250X Cell Cycle & Apoptosis WB Cocktail	1 x 200µl

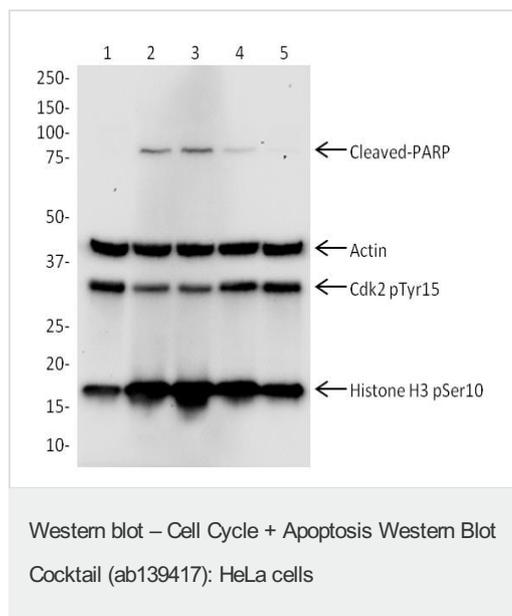
### Applications

**The Abpromise guarantee** Our [Abpromise guarantee](#) covers the use of ab139417 in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
WB		Use at an assay dependent concentration. 1/250 dilution for primary antibody cocktail. 1/2500 dilution for secondary antibody HRP cocktail.

## Images



Paclitaxel induces dose-dependent G2/M-phase arrest and induces apoptosis (decreased Cdk2 pTyr15, increased Histone H3 pSer10, cleaved PARP present).

Primary antibody: All lanes Cell Cycle WB cocktail (MS1123) diluted to 1X in 4% milk/PBS.

Lane 1: HeLa lysate; Untreated, asynchronous cells

Lane 2: HeLa lysate; 2000 nM Paclitaxel, 24h

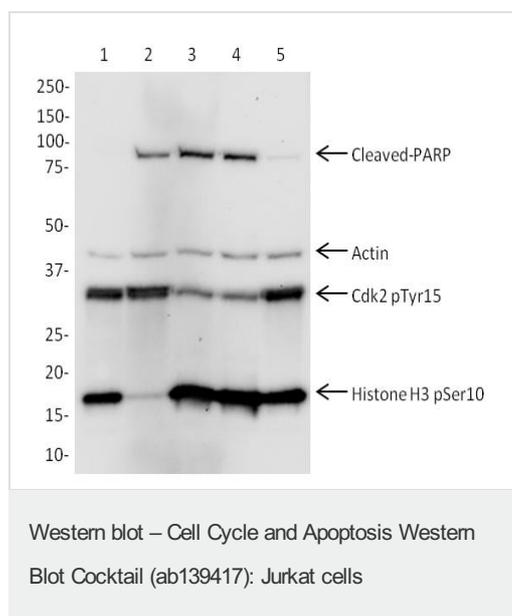
Lane 3: HeLa lysate; 100 nM Paclitaxel, 24h

Lane 4: HeLa lysate; 5 nM Paclitaxel, 24h

Lane 5: HeLa lysate; 0.25 nM Paclitaxel, 24h

All lysates at 15 µg per lane. Lysates are HeLa cells lysed in SDS lysis buffer.

Secondary antibody: All lanes are the WB secondary antibody HRP cocktail diluted to 1X in 4% milk/PBS.



Hydroxyurea induces a G1/S-phase cell cycle arrest and induces apoptosis (increased Cdk2 pTyr15, decreased Histone H3 pSer10, cleaved PARP present). Paclitaxel induces dose-dependent G2/M-phase arrest and induces apoptosis (decreased Cdk2 pTyr15, increased Histone H3 pSer10, cleaved PARP present).

Primary antibody: All lanes Cell Cycle WB cocktail (ab139417) diluted to 1X in 4% milk/PBS.

Lane 1: Jurkat lysate; Untreated, asynchronous cells

Lane 2: Jurkat lysate; 5 mM Hydroxyurea, 24h

Lane 3: Jurkat lysate; 1000 nM Paclitaxel, 24h

Lane 4: Jurkat lysate; 50 nM Paclitaxel, 24h

Lane 5: Jurkat lysate; 2.5 nM Paclitaxel, 24h

All lysates at 12 µg per lane. Lysates are Jurkat cells lysed in SDS lysis buffer.

Secondary antibody: All lanes are the WB secondary antibody HRP cocktail diluted to 1X in 4% milk/PBS.

Predicted & observed band size: 89, 42, 33, 17 kDa.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

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