

# Effector Caspases and Substrates Antibody Sampler Kit

Cat# AK0149

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

## PRODUCT DESCRIPTION

Apoptosis is a regulated physiological process leading to cell death. Caspases, a family of cysteine acid proteases, are central regulators of apoptosis. Caspase-3 (CPP-32, Apoptain, Yama, SCA-1), Caspase-6 (Mch2), and Caspase-7 (CMH-1, Mch3, ICE-LAP3) are effector caspases functioning in cellular apoptotic processes. Upon apoptotic stimulation, initiator caspases such as caspase-9 (ICE-LAP6, Mch6) are cleaved and activated. The activated upstream caspases further process downstream executioner caspases by cleaving them into activated large and small subunits, thereby initiating a caspase cascade leading to apoptosis. PARP, a 116 kDa nuclear poly (ADP-ribose) polymerase, appears to be involved in DNA repair in response to environmental stress. This protein can be cleaved by many ICE-like caspases in vitro and is one of the main cleavage targets of caspase-3 in vivo. In human PARP, cleavage occurs between Asp214 and Gly215, which separates the PARP amino-terminal DNA binding domain (24 kDa) from the carboxy-terminal catalytic domain (89 kDa). PARP helps cells to maintain their viability; cleavage of PARP facilitates cellular disassembly and serves as a marker of cells undergoing apoptosis. Lamins are nuclear membrane structural components that are important in maintaining normal cell functions, such as cell cycle control, DNA replication, and chromatin organization. Lamins have been subdivided into types A and B. Type-A lamins consist of lamin A and C, which arise from alternative splicing of the lamin A gene LMNA. Lamin A and C are cleaved by caspases into large (41-50 kDa) and small (28 kDa) fragments, which can be used as markers for apoptosis. Type-B lamins consist of lamin B1 and B2, encoded by separate genes. Lamin B1 is also cleaved by caspases during apoptosis.

## PRODUCT INCLUDES

Cat No.	Product name	Quantity	Applications	Reactivity	Host
A340458	Caspase-3 Polyclonal Antibody	20µL	WB, IHC, IF, ELISA	Human, Mouse, Rat	Rabbit
A340460	Caspase-6 Polyclonal Antibody	20µL	WB, IHC, IF, ELISA	Human, Mouse, Rat	Rabbit
A340462	Caspase-7 Polyclonal Antibody	20µL	WB, IHC, ELISA	Human	Rabbit
A340581	Lamin A/C Polyclonal Antibody	20µL	WB, IHC, IF, ELISA	Human, Mouse, Rat	Rabbit
A340582	Lamin B1 Polyclonal Antibody	20µL	WB, IHC, ELISA	Human, Mouse, Rat	Rabbit

<b>A340740</b>	PARP-1 Polyclonal Antibody	20μL	WB, ELISA	Human, Mouse, Rat	Rabbit
<b>A1013s</b>	Goat Anti-Rabbit IgG (H+L) (peroxidase/HRP conjugated)	120μL	WB, ELISA	Rabbit	Goat

## **PRODUCT USE LIMITATION**

These products are intended for research use only.