

# Apoptotic Release Antibody Sampler Kit

Cat# AK0120

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. Initiator caspases (including 8, 9, 10, and 12) are closely coupled to proapoptotic signals. Once activated, these caspases cleave and activate downstream effector caspases (including 3, 6, and 7), which in turn cleave cytoskeletal and nuclear proteins like PARP,  $\alpha$ -fodrin, DFF, and lamin A, and induce apoptosis. Cytochrome c is a well conserved electron-transport protein and is part of the respiratory chain localized to the mitochondrial intermembrane space. Upon apoptotic stimulation, cytochrome c released from mitochondria associates with procaspase-9 (47 kDa)/Apaf-1. This complex processes caspase-9 from inactive proenzyme to its active form. This event further triggers caspase-3 activation and eventually leads to apoptosis. Smac/Diablo is a 21 kDa mammalian mitochondrial protein that functions as a regulatory component during apoptosis. Upon mitochondrial stress, Smac/Diablo is released from mitochondria and competes with caspases for binding of inhibitor of apoptosis proteins (IAPs). The interaction of Smac/Diablo with IAPs relieves the inhibitory effect of the IAPs on caspases. High temperature requirement protein A2 (HtrA2)/Omi is a serine protease with homology to the E. coli HtrA protein (DegP) and is thought to be involved in apoptosis and stress-induced degradation of misfolded proteins. HtrA2 is produced as a 50 kDa zymogen that is cleaved to generate a 36 kDa mature protein that exposes an amino terminal motif (AVPS) resembling that of the IAP inhibitor Smac/Diablo. Like Smac, interaction between HtrA2 and IAP family members, such as XIAP, antagonizes their inhibition of caspase activity and protection from apoptosis. Caspase-3 (CPP-32, Apoptain, Yama, SCA-1) is a critical executioner of apoptosis, as it is either partially or totally responsible for the proteolytic cleavage of many key proteins, such as the nuclear enzyme poly (ADP-ribose) polymerase.

## PRODUCT INCLUDES

| Cat No.        | Product name                  | Quantity | Applications       | Reactivity                      | Host   |
|----------------|-------------------------------|----------|--------------------|---------------------------------|--------|
| <b>A340458</b> | Caspase-3 Polyclonal Antibody | 20µL     | WB, IHC, IF, ELISA | Human,<br>Mouse, Rat            | Rabbit |
| <b>A340488</b> | COX4 Polyclonal Antibody      | 20µL     | WB, IHC, IF, ELISA | Human                           | Rabbit |
| <b>A340496</b> | CYCS Polyclonal Antibody      | 20µL     | WB, IHC, ELISA     | Human,<br>Mouse, Rat,<br>Monkey | Rabbit |

|                |   |       |                |                      |        |
|----------------|---|-------|----------------|----------------------|--------|
| <b>A340138</b> | DIABLO Polyclonal Antibody                                | 20µL  | WB, IHC, ELISA | Human,<br>Mouse      | Rabbit |
| <b>A340591</b> | MEK-1/2 Polyclonal Antibody                               | 20µL  | WB, IHC, ELISA | Human,<br>Mouse, Rat | Rabbit |
| <b>A1013s</b>  | Goat Anti-Rabbit IgG (H+L)<br>(peroxidase/HRP conjugated) | 120µL | WB, ELISA      | Rabbit               | Goat   |

## **PRODUCT USE LIMITATION**

These products are intended for research use only.