



## Anti-p53AIP1 (CT)

**CATALOG No.: 28013**

### **BACKGROUND:**

The novel protein p53AIP, p53-regulated apoptosis-inducing protein 1, has been identified from the direct cloning of p53 binding sequences from human genomic DNA (1). The expression of p53AIP1 in mitochondria is induced by wild-type p53, which leads to apoptotic cell death through dissipation of mitochondrial  $\Delta\psi_m$ . Severe DNA damage causes the phosphorylation of p53 at Ser-46, p53AIP1 expression, and apoptotic cell death (1, 2). DNA damage-inducible apoptotic cell death was enhanced through transcriptional activation of p53AIP1. P53R2 is directly regulated by p53 for supplying nucleotides to repair damaged DNA, thus plays a pivotal role in cell survival by repairing damaged DNA in the nucleus and that dysfunction of this pathway might result in activation of p53 dependent apoptosis to eliminate dangerous cells (3, 4). In the opposite, p53AIP1 is likely to play an important role in mediating p53-dependent apoptosis, and phosphorylation of Ser46 regulates the transcriptional activation of this apoptosis inducing gene.

### **SOURCE:**

Rabbit anti-p53AIP1 polyclonal antibody was raised against a synthetic peptide (GSAFELSYDQKKAPLR) corresponding to C-terminus of human p53AIP1 (1).

### **REACTIVITY:**

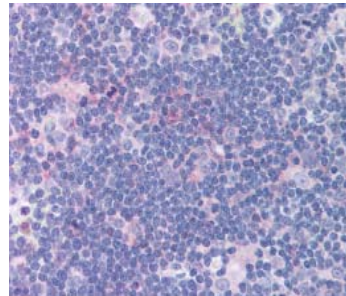
This antibody can be used for detection of p53AIP1 by Western blot at 0.5 to 1  $\mu\text{g/ml}$ . An immune reactive band is observed from apoptotic A431 or HEK293 cell lysate, this band is abolished by immunizing peptide. In IHC, it showed moderate to strong staining of a number of cell types in formalin-fixed human tissues including heart, kidney, lung, and pancreas, with minimal background. at least 22 different human formalin-fixed, paraffin archival tissues, and positive and negative tissues were scored and compared to the published literature on the expression and function of the gene.

### **APPLICATION:**

The following concentration ranges are recommended starting points for this product.

**WB:** 0.5 to 2  $\mu\text{g/ml}$   
**IHC:** 2.5-20.0  $\mu\text{g/ml}$  (Optimal 20  $\mu\text{g/ml}$ )  
**IP:** 3.0-5.0  $\mu\text{g/extract}$  from  $10^7$  cells

IHC: Localization of the antibody as the



precipitated red signal, with a hematoxylin purple nuclear counterstain in respiratory bronchiolar epithelium of the lung.

*This product is for in vitro research purposes*

*only.*

### **STORAGE:**

This polyclonal antibody is supplied as an epitope affinity purified rabbit IgG, 50  $\mu\text{g}$  in 250  $\mu\text{l}$  (0.2 mg/ml) of 1X PBS (pH 7.4) containing 0.05% sodium azide. Store at 2-8  $^{\circ}\text{C}$  for up to one year. Avoid repeated freezing and thawing.

### **RELATED PRODUCTS:**

Blocking peptide, 50  $\mu\text{g}$  at 200  $\mu\text{g/ml}$ , is available for competition studies (Catalog No. 28013-P).

### **REFERENCES:**

1. Oda K et al (2000) P53AIP1, a potential mediator of p53-Dependent apoptosis, and its regulation by Ser46-phosphorylated p53. Cell 102: 849-862.
2. Okamura S et al (2001) p53DINP1, a p53-inducible gene, regulates p53-dependent apoptosis. Mol Cell 8(1): 85-94
3. Costanzo A et al (2002) DNA damage-dependent acetylation of p73 dictates the selective activation of apoptotic target genes. Mol cell, 9 (1): 175-86.
4. Yamaguchi T et al (2001) p53R2-dependent pathway for DNA synthesis in a p53-regulated cell cycle checkpoint. Cancer Res 61 (22): 8256-62.