ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

PUMA-alpha/beta (p53-upregulated modulator of apoptosis) Antibodies

□ Cat. # PUMA12-P	Human PUMA-alpha/beta Control Peptide # 2	**SIZE**: 100 ug
□ Cat. # PUMA12-S	Rabbit Anti-Human PUMA-alpha/beta antiserum # 2	**SIZE**: 100 ul
□ Cat. # PUMA12-A	Rabbit Anti-Human PUMA-alpha/beta IgG # 2 (aff pure)	**SIZE**: 100 ug

The p53 tumor antigen is found in increased amounts in a wide variety of transformed cells. The protein is also detectable in many actively proliferating, nontransformed cells, but it is undetectable or present at low levels in resting cells. P53 tumor-suppressor protein functions to inhibit the growth of tumor cells. Although p53 is not required for the growth and differentiation of normal cells, it may play a role in several cellular processes including senescence and differentiation. Mice lacking p53 show a high incidence of tumor formation. P53 inhibits cell growth through inactivation of both cell cycle arrest and apoptosis. Several p53-induces genes play a role in the induction of apoptosis. Through global profiling of genes that were expressed soon after p53 expression, a novel gene termed **PUMA (p53-upregulated modulator of apoptosis)** as a target for p53 activation. PUMA/JFY1 (mouse 193-aa, human 193-aa, chromosome 19q) is expressed in most tissues. It is exclusively located in mitochondria and it induces cytochrome-C release. PUMA binds to BCL2 and BCLXL through a BH3 domain (141-149 aa). Exogenous expression of PUMA resulted in an extremely rapid and profound apoptosis that occurred much earlier than that resulting from exogenous expression of p53. PUMA is alternatively spliced to produce 2-4 transcripts PUMA alpha (193-aa, ~25 kDa), -beta (131-aa, ~16 kDa), gamma, and delta (101-aa). The gamma and delta forms were not detectable in endogenous cells. PUMA alpha and beta displayed similar apoptosis inducing ability.

Source of Antigen and Antibodies

Antigen	17-aa, Human PUMA (1) Designation (PUMA12-P, control peptide) coupled to KLH Epitope location ~ Internal (middle region)
Antibody Host/Type	Rabbit, Polyclonal, Antibody Available as unpurified antiserum (Cat # PUMA12-S) and Affinity pure IgG (cat # PUMA12-A).purified over the antigen column
2ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
□ 100ul □ solution □ lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
□ 100 ug/100ul □ solution □ lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..

Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified IgG at 5-20 ug/ml.

Specificity & Cross-reactivity

Human PUMA12-P control peptide sequence is also found in alternatively spliced PUMA-beta but not in gamma or delta forms. PUMA12-P is 88% conserved in mouse and rat PUMA-alpha. No significant sequence homology is detected with other proteins. Antibody cross-reactivity in various species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: the web site).

General References:
Nakano K et al (2001) Mol Cell 7, 683-694; Yu J et al (2001) Mol. Cell 7, 673-682

*This product is for In vitro research use only.

Related material available from ADI

Antibodies AIF, Apaf-1, Cytochrome-C, Caspases, IAPs, Survivin, EPR-1, CARD,

PUMA12-S-A-P 71215S

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