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Datasheet for 600-401-987

# PUMA Antibody

## Overview

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| **Description:** | Anti-PUMA (p53 Upregulated Modulator of Apoptosis) (RABBIT) Antibody - 600-401-987 |
| **Item No.:** | 600-401-987 |
| **Size:** | 100 µg |
| **Applications:** | ELISA, IF, IHC, WB |
| **Reactivity:** | Human, Mouse |
| **Host Species:** | Rabbit |

## Product Details

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| **Background:** | Apoptosis is related to development as well as to many diseases. The p53 tumor-suppressor protein induces apoptosis through transcriptional activation of several genes. A novel p53 inducible pro-apoptotic gene was identified recently and designated PUMA (for p53 upregulated modulator of apoptosis) and bbc3 (for Bcl-2 binding component 3) in human and mouse (1-3). PUMA/bbc3 is one of the pro-apoptotic Bcl-2 family members. This family of proteins also includes Bax and Noxa, which are also transcriptional targets of p53. The PUMA gene encodes two BH3 domain-containing proteins termed PUMA-α and PUMA-β (1). PUMA proteins bind Bcl-2, localize to the mitochondria, and induce cytochrome c release and apoptosis in response to p53. PUMA may be a direct mediator of p53-induced apoptosis. Anti-PUMA antibody is ideal for investigators involved in Apoptosis research. |
| **Synonyms:** | BCL2 binding component 3 antibody, JFY 1 antibody, JFY1 antibody, p53 up regulated modulator of apoptosis antibody |
| **Host Species:** | Rabbit |
| **Clonality:** | Polyclonal |
| **Format:** | IgG |

## Target Details

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| **Gene Name:** | BBC3 |
| **Reactivity:** | Human, Mouse |
| **Immunogen Type:** | Conjugated Peptide |

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| **Immunogen:** | PUMA Antibody was produced from whole rabbit serum prepared by repeated immunizations with a synthetic peptide corresponding to amino acids near the c-terminus of human PUMA-a. This sequence is identical between a and b forms of the PUMA proteins. |
| **Purity/Specificity:** | Anti-PUMA Antibody was affinity purified from monospecific antiserum by immunoaffinity purification. A BLAST analysis was used to suggest cross-reactivity with PUMA with Human and Mouse based on 100% homology with the immunizing sequence. Cross-reactivity with PUMA from other sources has not been determined. |
| **Relevant Links:** | • NCBI - NP_001120712.1<br>• UniProtKB - Q9BXH1<br>• GeneID - 27113 |

## Application Details

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| **Tested Applications:** | ELISA, IF, IHC, WB |
| **Application Note:** | Anti-PUMA antibody has been tested for use in ELISA, Western Blotting, IF, and immunocytochemistry. K562 or 3T3 cell lysates can be used as positive controls in western blotting, and a band at approximately 23 kDa can be detected. A lower band at approximately 16 kDa was detected in MOLT4 and U937 cell lysates, which may represent the PUMA-b form. Specific conditions for reactivity should be optimized by the end user. |
| **Assay Dilutions:** | All assays should be optimized by the user. Recommended dilutions (if any) may be listed below. |
| **ELISA:** | User Optimized |
| **IF:** | 2 µg/mL |
| **WB:** | 1-2 µg/ml |

## Formulation

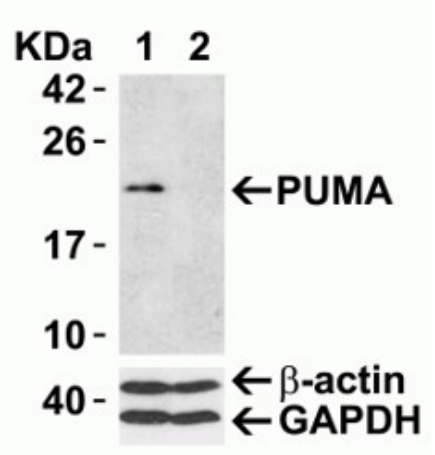
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| **Physical State:** | Liquid (sterile filtered) |
| **Concentration:** | 1.0 mg/mL by UV absorbance at 280 nm |
| **Buffer:** | 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2 |
| **Preservative:** | 0.02% (w/v) Sodium Azide |
| **Stabilizer:** | None |

## Shipping & Handling

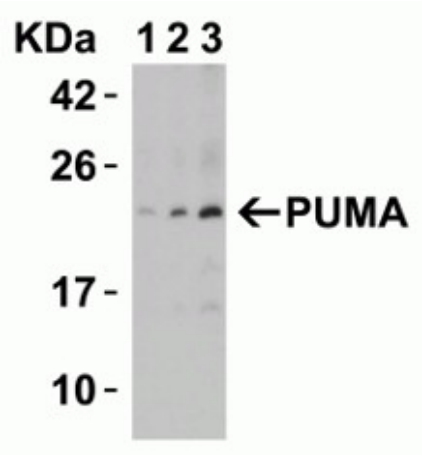
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| **Shipping Condition:** | Wet Ice |

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| **Storage Condition:** | Store vial at 2° - 8° C or below prior to opening. For extended storage, aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Dilute only prior to immediate use. |
| **Expiration:** | Expiration date is one (1) year from date of receipt. |

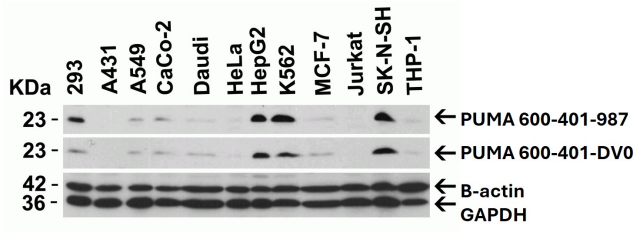
## Images




**Western Blot**
Validation with PUMA siRNA Knockdown in 293 Cells. Loading: 15 µg of 293 whole cell lysates per lane. 293 cells were transfected with control siRNAs (lane 1) or PUMA siRNAs (lane 2). Antibodies: (2 µg/mL), beta-actin (1 µg/mL) and GAPDH (0.02 µg/mL), 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.

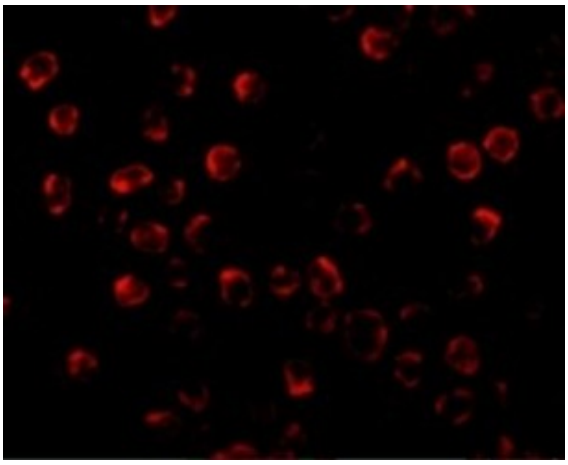



**Western Blot**
Sensitivity Test for PUMA in 293 Cells. Loading: Lysates at 15 µg per lane. Antibodies: (lane 1-3: 1, 2 and 4 µg/mL). 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.

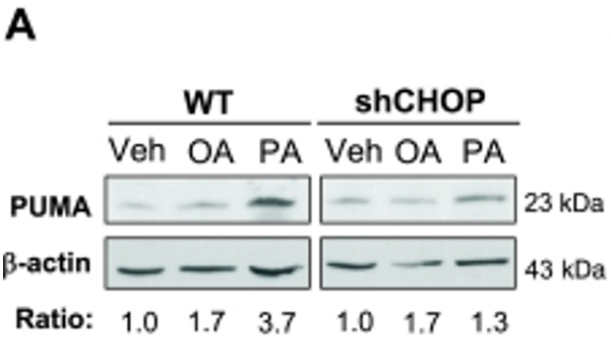



**Western Blot**
Western Blot using PUMA. Loading: 20 µg of lysates per lane.

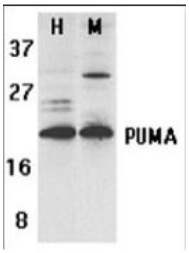
Antibodies: 600-401-987 (3 µg/mL), 600-401-DV0 (2 µg/mL), beta-actin (1 µg/mL) and GAPDH (0.02 µg/mL), 1 h incubation at RT in 5% NFDM/TBST. Secondary: Goat anti-rabbit IgG HRP conjugate at 1:10000 dilution.



**Immunofluorescence Microscopy**
Immunofluorescence Validation of PUMA in K562 Cells. Immunofluorescent analysis of 4% paraformaldehyde-fixed K562 cells labeling PUMA at 2 µg/mL, followed by goat anti-rabbit IgG secondary antibody at 1/500 dilution (red). Image showing cytosol staining on K562 cells.




**Western Blot**
CHOP knockdown decreased palmitate-mediated increase in PUMA (p53 upregulated modulator of apoptosis) protein levels and Bax activation. A) WT Huh-7 and shCHOP Huh-7 were incubated with palmitic acid and oleic acid at 800 µM. Vehicle -treated cells were used as control. Whole cell lysates were prepared 16 h after treatments, and immunoblot analysis was performed for PUMA protein expression. β-Actin was used as a control for protein loading. PUMA/β-actin ratio was calculated by densitometry and normalized to vehicle-treated cells. Fig 2. PMID: 20430872




**Western Blot**
Western blot analysis of PUMA expression in human (H) K562 and mouse (M) 3T3 cell lysates with PUMA antibody at 2 µg/ml.



**Immunohistochemistry**
Immunocytochemistry of PUMA in K562 cells with PUMA antibody at 1 µg/ml.

## References


- Cazanave SC et al. CHOP and AP-1 cooperatively mediate PUMA expression during lipoapoptosis. *Am J Physiol Gastrointest Liver Physiol.* (2010)


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