

# PRODUCT INFORMATION



## p16<sup>INK4A</sup> (C-Term) Rabbit Monoclonal Antibody (Clone RM409) Item No. 32335

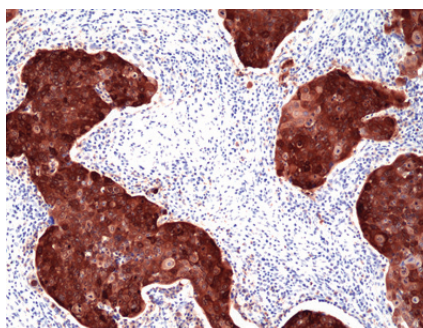
### Overview and Properties

<b>Contents:</b>	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
<b>Immunogen:</b>	Peptide from the C-terminal region of human p16 <sup>INK4A</sup>
<b>Cross Reactivity:</b>	(+) p16 <sup>INK4A</sup>
<b>Species Reactivity:</b>	(+) Human
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥1 year
<b>Storage Buffer:</b>	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
<b>Clone:</b>	RM409
<b>Host:</b>	Rabbit
<b>Isotype:</b>	IgG
<b>Applications:</b>	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100-1:200 for IHC and 1:1,000-1:2,000 for WB. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Images



WB of 293 cell lysate using p16<sup>INK4A</sup> (C-Term) Rabbit Monoclonal Antibody (Clone RM409) at a dilution of 1:2,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human cervical squamous carcinoma tissue using p16<sup>INK4A</sup> (C-Term) Rabbit Monoclonal Antibody (Clone RM409) at a 1:200 dilution.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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p16<sup>INK4A</sup> is a negative regulator of the cell cycle encoded by the *CDKN2A* gene in humans that limits cell cycle progression and promotes cellular senescence.<sup>1,2</sup> It induces cell cycle arrest at the G<sub>1</sub> phase by binding to cyclin-dependent kinase 4 (Cdk4) or Cdk6 in the cytoplasm, inhibiting formation of the cyclin D1/Cdk4/6 complex. p16<sup>INK4A</sup> is expressed at low levels during homeostasis and is increased in response to cellular stressors, including oncogene activation and reactive oxygen species (ROS).<sup>2</sup> It is regulated by a variety of transcriptional, translational, and epigenetic mechanisms, such as chromatin modifications mediated by polycomb repressive complex 1 (PRC1) and PRC2 that inhibit *CDKN2A* expression.<sup>1-3</sup> Aberrant *CDKN2A* mRNA and p16<sup>INK4A</sup> protein levels have been found in tumor biopsies from patients with a variety of cancers, including colon, breast, gall bladder, or head and neck cancer.<sup>2</sup> *CDKN2A* SNPs have been found in patients with follicular lymphoma and are associated with reduced overall survival.<sup>4</sup> Cayman's p16<sup>INK4A</sup> (C-Term) Rabbit Monoclonal Antibody (Clone RM409) can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

## References

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1. Zhao, R., Choi, B.Y., Lee, M.-H., *et al.* Implications of genetic and epigenetic alterations of *CDKN2A* (p16<sup>INK4a</sup>) in cancer. *EBioMedicine* **8**, 30-39 (2016).
2. Inoue, K. and Fry, E.A. Aberrant expression of p16<sup>INK4a</sup> in human cancers – a new biomarker? *Cancer Rep. Rev.* **2(2)**, (2018).
3. LaPak, K.M. and Burd, C.E. The molecular balancing act of p16<sup>INK4a</sup> in cancer and aging. *Mol. Cancer Res.* **12(2)**, 167-183 (2014).
4. Alhejaily, A., Day, A.G., Feilotter, H.E., *et al.* Inactivation of the *CDKN2A* tumor-suppressor gene by deletion or methylation is common at diagnosis in follicular lymphoma and associated with poor clinical outcome. *Clin. Cancer Res.* **20(6)**, 1676-1686 (2014).

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