

IOTest Anti-Ki-67-Alexa Fluor 488

PN B68180 – 0.5 mL – Liquid – Clone Ki-67

Analyte Specific Reagent.

Analytical and performance characteristics are not established

IOTest

Anti-Ki-67-
Alexa Fluor 488

PN B68180

Conjugated Antibody
Liquid - 0.5 mL

Specifications	
Clone	Ki-67
Hybridoma	X63 x balb/c
Immunogen	Nuclei of Hodgkin lymphoma cell line L428
Isotype	IgG1
Species	Mouse
Source	Ascites fluid or supernatant of in vitro cultured hybridoma cells
Purification	Affinity chromatography
Fluorochrome	Alexa Fluor 488
Molar ratio	Alexa Fluor 488 / Ig: 3.5 - 5.3
λ excitation	488 nm
Emission Peak	519 nm
Buffer	PBS pH 7.2 plus 2 mg / mL BSA and 0.1% NaN ₃

SPECIFICITY

The Ki-67 antigen is a human nuclear protein defined by its reactivity with monoclonal antibody from the Ki-67 clone. Two isoforms of 345 and 395 kDa have been identified by cDNA sequence coding (1). Deduced amino acid sequence analysis of the Ki-67 antigen confirmed that the cDNA encodes for a nuclear and short-lived protein without any significant homology to known sequences (1, 2).

The Ki-67 antigen is expressed at active phases of the cell cycle (G1, S, G2 and M phases), but it is absent in resting cells (G0 phase). The level of Ki-67 antigen expression varies during cell cycle and it has been correlated to several cell pathways: The Ki-67 decrease pathway is characterized by a declining Ki-67 staining and leads eventually to the exit from the active cell cycle (G0). If cells on this pathway get stimulated by growth factors, they can enter the Ki-67 increase pathway that brings the cells back into S phase. Cells following the Ki-67 stable pathway exhibit a constant intensity of Ki-67 staining during the G1 phase. This pathway is thought to correspond to optimal local growth conditions (3, 4).

The cellular localization of the Ki-67 protein is cell cycle phase dependent. During interphase, the antigen can be exclusively detected within the nucleus, whereas in M phase most of the protein is relocated to the surface of the chromosomes. The antigen is rapidly degraded as the cell enters the non-proliferative state (3, 4).

Ki-67 monoclonal antibody is directed against a nuclear antigen associated with cell proliferation (5).

REAGENT CONTENTS

Concentration: See lot specific Certificate of Analysis at www.beckmancoulter.com.

PRECAUTIONS

1. This reagent contains 0.1% sodium azide. Sodium azide under acid conditions yields hydrazoic acid, an extremely toxic compound. Azide compounds should be flushed with running water while being discarded. These precautions are recommended to avoid deposits in metal piping in which explosive conditions can develop. If skin or eye contact occurs, wash excessively with water.
2. Specimens, samples and all material coming in contact with them should be considered potentially infectious and disposed of with proper precautions.
3. Never pipet by mouth and avoid contact of samples with skin and mucous membranes.
4. Do not use antibody beyond the expiration date on the label.
5. Do not expose reagents to strong light during storage or incubation.
6. Avoid microbial contamination of reagents or incorrect results might occur.
7. Use good laboratory practices when handling this reagent.
8. Any change in the physical appearance of the reagents may indicate deterioration and the reagent should not be used.

STORAGE AND HANDLING CONDITIONS AND STABILITY

This reagent is stable up to the expiration date when stored at 2 – 8°C. Do not freeze. No reconstitution is necessary. This monoclonal antibody may be used directly from the vial. Bring reagent to 18 – 25°C prior to use.

SELECTED RESEARCH REFERENCES

1. Gerdes, J. et al. Immunobiochemical and Molecular Biologic Characterization of the Cell Proliferation-associated Nuclear Antigen That Is Defined by Monoclonal Antibody Ki-67. *American Journal of Pathology*, 1991, 138, 4.
2. Schlüter C. et al. The Cell Proliferation-associated Antigen of Antibody Ki-67: A Very Large, Ubiquitous Nuclear Protein with Numerous Repeated Elements, Representing a New Kind of Cell Cycle-maintaining Proteins. *The Journal of Cell Biology*, 1993, 123, 3, 513-522.
3. Gerdes, J. et al. Cell cycle analysis of a cell proliferation-associated human nuclear antigen defined by the monoclonal antibody Ki-67. *J Immunol.* 1984; 133(4):1710-5.
4. Scholzen T. and Gerdes, J. The Ki-67 Protein: From the Known and the Unknown. *Journal of Cellular Physiology*, 2000, 182:311–322.
5. Gerdes, J. et al. Production of a mouse monoclonal antibody reactive with a human nuclear antigen associated with cell proliferation. *Int J Cancer.* 1983; 31(1):13-20.

TRADEMARKS

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For additional information, or if damaged product is received, call Beckman Coulter Customer Service at 800-526-7694 (USA or Canada) or contact your local Beckman Coulter Representative.

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