

PRODUCT INFORMATION



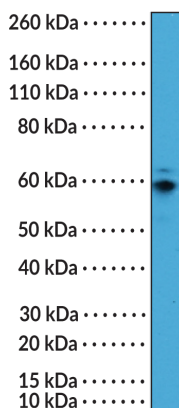
p70S6K (N-Term) Rabbit Monoclonal Antibody

Item No. 35617

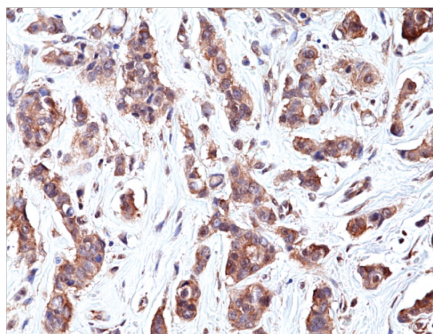
Overview and Properties

Contents:	This vial contains 100 µl of protein A-affinity purified monoclonal antibody.
Synonym:	p70 Ribosomal S6 Kinase
Immunogen:	Peptide from the N-terminal region of human p70S6K
Cross Reactivity:	(+) p70S6K
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Clone:	RM438
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC) and Western blot (WB); the recommended starting dilution is 1:100–1:400 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.

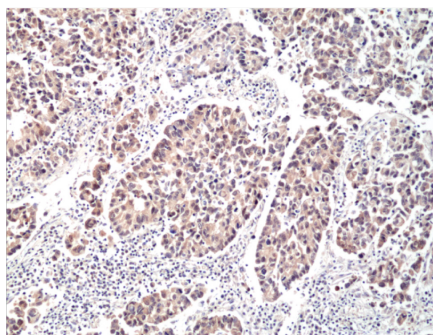
Images



WB of MCF-7 lysate using p70S6K (N-Term) Rabbit Monoclonal Antibody at a dilution of 1:2,000.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human breast cancer tissue using p70S6K (N-Term) Rabbit Monoclonal Antibody at a 1:400 dilution.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human brain cancer tissue using p70S6K (N-Term) Rabbit Monoclonal Antibody at a 1:100 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

p70 Ribosomal S6 kinase (p70S6K) is serine/threonine kinase of the S6K family.¹ It is composed of an N-terminal domain, a kinase domain, and a C-terminal domain and has several phosphorylation sites. There are three isoforms of p70S6K with p70S6K1 and p70S6K2 generated by alternative translation initiation sites and p70S6K3 generated *via* alternative splicing. p70S6K localizes to the cytoplasm and is activated in response to insulin and growth factor signaling, as well as to amino acids and glucose metabolism.^{1,2} It is activated in a process requiring phosphorylation of three or four serine residues in the C-terminal domain, depending on the isoform, which induces a conformational change that allows two threonine residues to be phosphorylated by mammalian target of rapamycin (mTOR) and 3-phosphoinositide-dependent protein kinase 1 (PDK1).^{1,3} Active p70S6K phosphorylates the 40S ribosomal subunit ribosomal protein S6 (RSK), leading to protein synthesis and cell cycle progression.^{1,2} p70S6K also targets proteins involved in other processes, including cell growth and motility, adipocyte differentiation, and synaptic plasticity.³ Expression of *RPS6KB1*, the gene encoding p70S6K1, is increased in visceral adipose tissue from obese patients.⁴ Cayman's p70S6K (N-Term) Rabbit Monoclonal Antibody can be used for immunohistochemistry (IHC) and Western blot (WB) applications.

References

1. Tavares, M.R., Pavan, I.C.B., Amaral, C.L., *et al.* The S6K protein family in health and disease. *Life Sci.* **131**, 1-10 (2015).
2. Long, X., Muller, F., and Avruch, J. TOR action in mammalian cells and in *Caenorhabditis elegans*. *TOR Target of Rapamycin*. Thomas, G., Sabatini, D.M., and Hall, M.N., editors, 1st edition, *Springer* (2004).
3. Magnuson, B., Ekim, B., and Fingar, D.C. Regulation and function of ribosomal protein S6 kinase (S6K) within mTOR signalling networks. *Biochem. J.* **441**(1), 1-21 (2012).
4. Catalán, V., Gómez-Ambrosi, J., Rodríguez, A., *et al.* Expression of S6K1 in human visceral adipose tissue is upregulated in obesity and related to insulin resistance and inflammation. *Acta Diabetol.* **52**(2), 257-266 (2015).

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