

BACKGROUND

The p70 S6 kinase was originally identified as a kinase that regulates serine phosphorylation of the 40 S ribosomal S6 protein, a major component of the machinery involved in protein synthesis in mammalian cells. This kinase is activated by numerous mitogens, growth factors, and hormones. Activation of p70S6K occurs through the phosphorylation at a number of sites.

p70S6K activation has been implicated in cell cycle control, cell movement, and cell differentiation regulation.¹ It has been well demonstrated that the activation of p70 S6 kinase is regulated by the FKBP 12-rapamycin-associated protein (FRAP/mTOR), whose activation is in turn regulated by the upstream activation of the phosphatidylinositol 3'-kinase pathway, typically activated upon stimulation of a cell with a growth factor (such as IGF-1).² Branched chain amino acids, such as leucine, are also sufficient for the activation of mTOR, resulting in an increase in p70S6K phosphorylation.³ On the other hand, AMPK plays important role in negatively regulating mTOR/p70 S6 kinase pathway.⁴

References:

1. Pearson RB & Thomas G: Prog. Cell Cycle Res. 1:21-32, 1995.
2. Chung J et al.: Nature 370:71-75, 1994.
3. Ban H et al.: Int J Mol Med. 13:537-43, 2004.
4. Chan AYM & Dyck JRB: Can. J. Physiol. Pharmacol. 83:24-28, 2005.

TECHNICAL INFORMATION

Source:

p70 S6 Kinase Antibody is a rabbit antibody raised against a short peptide of human p70 S6 kinase N-terminal sequence.

Specificity and Sensitivity:

This rabbit antibody detects endogenous levels of p70 S6 kinase proteins in normal cell lysates.

Storage Buffer: Rabbit IgG in phosphate buffered saline (without Mg²⁺ and Ca²⁺), pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.

Storage:

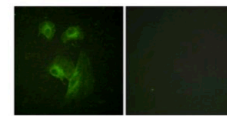
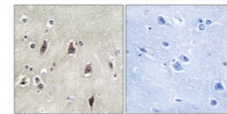
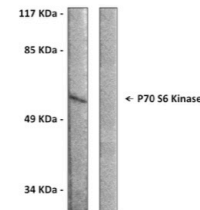
Store at -20°C for at least one year. Store at 4°C for frequent use. Avoid repeated freeze-thaw cycles.

APPLICATIONS

Application:	*Dilution:
WB	1:500-1:1000
IP	n/d
IHC	1:50-1:100
ICC	n/d
FACS	n/d
IF	1:500-1:1000

**Optimal dilutions must be determined by end user.*

QUALITY CONTROL DATA



Top: Western Blot detection of endogenous p70 S6 kinase proteins from HEK293 cell lysate using p70 S6 Kinase Antibody. **Bottom:** This antibody stains paraffin-embedded human breast cancer tissue in immunohistochemical analysis.

