

Product Information

PHAS-I, Rat, recombinant expressed in *E. coli*

Product Number **P 7992**
Storage Temperature -70°C

Synonym: 4EBP-I

Product Description

PHAS-I is a recombinant, rat protein containing a calmodulin binding protein tag expressed in *E. coli*. It is a highly specific substrate for MAPK both *in vivo* and *in vitro*. It is also useful as an *in vitro* substrate for p38 and PKC.^{1,2}

Insulin and many growth factors act within minutes to stimulate protein synthesis via activation of mRNA translation.^{3,4} This appears to involve phosphorylation of multiple translation factors. PHAS-I, a protein with a molecular weight of approximately 12.5 kDa, is a heat and acid stable species, which is markedly phosphorylated in response to insulin.⁵ PHAS-I is now known to be expressed in a wide variety of cell types and to act as a regulator of eIF-4E, the mRNA cap-binding protein.^{6,7} Nonphosphorylated PHAS-I binds tightly to eIF-4E^{8,9} and blocks eIF-4E binding to eIF-4G.^{10,11} Consequently, increasing amounts of PHAS-I inhibits cap-dependent mRNA translation both *in vitro* and in intact cells.^{2,8}

Purity: minimum 90% (SDS-PAGE)

Precautions and Disclaimer

This product is for laboratory research use only. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

The product is supplied as a lyophilized powder. When reconstituted with 250 μl of water, each vial will contain 250 μg of protein, 25 mM Tris, pH 7.4, 50 mM NaCl, 0.5 mM EDTA, and 5 mM 2-mercaptoethanol.

Storage/Stability

The product ships on dry ice and storage at -70°C is recommended.

References

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