Revision 1

#9955 Store at -20°C

4E-BP Antibody Sampler Kit

1 Kit (6 x 20 microliters)

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Product Includes	Product #	Quantity	Mol. Wt	Isotype/Source
Phospho-4E-BP1 (Thr37/46) (236B4) Rabbit mAb	2855	20 µl	15 to 20 kDa	Rabbit IgG
Non-phospho-4E-BP1 (Thr46) (87D12) Rabbit mAb	4923	20 µl	15-20 kDa	Rabbit IgG
Phospho-4E-BP1 (Ser65) Antibody	9451	20 µl	15 to 20 kDa	Rabbit
4E-BP1 (53H11) Rabbit mAb	9644	20 µl	15-20 kDa	Rabbit IgG
4E-BP2 Antibody	2845	20 µl	15 to 20 kDa	Rabbit
Phospho-4E-BP1 (Thr70) Antibody	9455	20 µl	15 to 20 kDa	Rabbit
Anti-rabbit IgG, HRP-linked Antibody	7074	100 µl		Goat

Please visit cellsignal.com for individual component applications, species cross-reactivity, dilutions, protocols, and additional product information.

Description

The 4E-BP Antibody Sampler Kit provides an economical means to investigate regulation of cap-dependent translation within the cell. The kit contains primary and secondary antibodies to perform two Western blots with each antibody.

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at –20°C. Do not aliquot the antibody.

Background

Translation repressor protein 4E-BP1 (also known as PHAS-1) inhibits cap-dependent translation by binding to the translation initiation factor eIF4E. Hyperphosphorylation of 4E-BP1 disrupts this interaction and results in activation of cap-dependent translation (1). Both the PI3 kinase/Akt pathway and FRAP/mTOR kinase regulate 4E-BP1 activity (2,3). Multiple 4E-BP1 residues are phosphorylated *in vivo* (4). While phosphorylation by FRAP/mTOR at Thr37 and Thr46 does not prevent the binding of 4E-BP1 to eIF4E, it is thought to prime 4E-BP1 for subsequent phosphorylation at Ser65 and Thr70 (5).
4E-BP2 and 4E-BP3 share high sequence homology with 4E-BP1, including conservation of the major FRAP/mTOR-dependent phosphorylation sites. Preliminary data suggests that phosphorylation of 4E-BP2 is regulated in a similar manner to that of 4E-BP1, although phosphorylation of this protein has not been as extensively studied (6).

Background References

1. Pause, A. et al. (1994) *Nature* 371, 762-7.
2. Brunn, G.J. et al. (1997) *Science* 277, 99-101.
3. Gingras, A.C. et al. (1998) *Genes Dev* 12, 502-13.
4. Fadden, P. et al. (1997) *J Biol Chem* 272, 10240-7.
5. Gingras, A.C. et al. (1999) *Genes Dev* 13, 1422-37.
6. Lin, T.A. and Lawrence, J.C. (1996) *J. Biol. Chem.* 271, 30199-30204.

Trademarks and Patents

Limited Uses

otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.