Revision 1

Store at -20C

#5634

EGF Receptor Control Cell Extracts

Controls for 10 western blots

Cell Signaling TECHNOLOGY®

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

Product Includes	Product #	Quantity
EGF Receptor Control Cell Extracts (A431 untreated)	91047	150 µl
EGF Receptor Control Cell Extracts (A431 +EGF)	20417	150 µl

Description

Nonphosphorylated EGF Receptor Control Cell Extracts: Total extracts from A431 cells, serum starved overnight to serve as a negative control. Supplied in SDS Sample Buffer.

Phosphorylated EGF Receptor Control Cell Extracts: Total extracts from A431 cells, serum starved overnight and treated with 100 ng/ml hEGF #8916 for five minutes to serve as a positive control. Supplied in SDS Sample Buffer.

Storage

Supplied in SDS Sample Buffer: 62.5 mM Tris-HCl (pH 6.8 at 25°C), 2% w/v SDS, 10% glycerol, 50 mM DTT, 0.01% w/v phenol red or bromophenol blue. Store at –20°C or at –80°C for long term storage.

Background

The epidermal growth factor (EGF) receptor is a transmembrane tyrosine kinase that belongs to the HER/ErbB protein family. Ligand binding results in receptor dimerization, autophosphorylation, activation of downstream signaling, internalization, and lysosomal degradation (1,2). Phosphorylation of EGF receptor (EGFR) at Tyr845 in the kinase domain is implicated in stabilizing the activation loop, maintaining the active state enzyme, and providing a binding surface for substrate proteins (3,4). c-Src is involved in phosphorylation of EGFR at Tyr845 (5). The SH2 domain of PLCγ binds at phospho-Tyr992, resulting in activation of PLCγ-mediated downstream signaling (6). Phosphorylation of EGFR at Tyr1045 creates a major docking site for the adaptor protein c-Cbl, leading to receptor ubiquitination and degradation following EGFR activation (7,8). The GRB2 adaptor protein binds activated EGFR at phospho-Tyr1068 (9). A pair of phosphorylated EGFR residues (Tyr1148 and Tyr1173) provide a docking site for the Shc scaffold protein, with both sites involved in MAP kinase signaling activation (2). Phosphorylation of EGFR at specific serine and threonine residues attenuates EGFR kinase activity. EGFR carboxy-terminal residues Ser1046 and Ser1047 are phosphorylated by CaM kinase II; mutation of either of these serines results in upregulated EGFR tyrosine autophosphorylation (10).

Directions for Use

Boil for 3 minutes prior to use. Load 15 µl of phosphorylated and nonphosphorylated EGF Receptor Control Cell Extracts per lane.

Background References

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3. Cooper, J.A. and Howell, B. (1993) *Cell* 73, 1051-4.
4. Hubbard, S.R. et al. (1994) *Nature* 372, 746-54.
5. Biscardi, J.S. et al. (1999) *J Biol Chem* 274, 8335-43.
6. Emlet, D.R. et al. (1997) *J Biol Chem* 272, 4079-86.
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10. Feinmesser, R.L. et al. (1999) *J Biol Chem* 274, 16168-73.

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