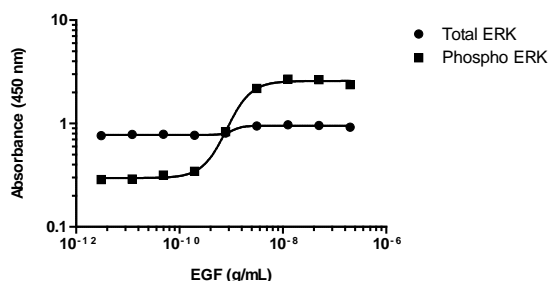


## ERK 1/2 (Total) InstantOne ELISA™ Kit

Catalog Number: 85-86011

Also known as: p44/p42, MAP Kinase 1/2

RUO: For Research Use Only. Not for use in diagnostic procedures.



Confluent HeLa cells were serum starved overnight, then stimulated with EGF for 10 min at the indicated concentrations. Cells were analyzed for ERK 1/2 (pT202/Tyr204) phosphorylation or total ERK 1/2 protein levels using the Phospho or Total ERK 1/2 InstantOne ELISA™, respectively.

### Product Information

**Contents:** ERK 1/2 (Total) InstantOne ELISA™

**Catalog Number:** 85-86011



**Temperature Limitation:** Store at 2-8°C.

**Batch Code:** Refer to vial

**Use By:** Refer to vial

### Description

The InstantOne ELISA™ is specifically engineered for accurate measurement of total human, mouse, and hamster ERK 1/2 in cell lysates. Detection of rat ERK 1/2 is expected. The InstantOne ELISA™ kit allows for fast analysis of samples in approximately one hour. All reagents used in a traditional sandwich ELISA are added in solution to a plate followed by a wash step and detection with the TMB colorimetric substrate.

Extracellular signal-regulated kinase (ERK) is the founding member and a key component of the classical Mitogen-Activated Protein Kinase (MAPK) pathway. ERK1 (p44, MAPK3) and ERK2 (p42, MAPK2) are both activated via the MAPK/ERK pathway, which is downstream of various Receptor Tyrosine Kinases (RTKs) or GPCRs. In the classical MAPK pathway, ligand binding induces the activation of an RTK that initiates a signaling cascade that results in activation of the GTPase Ras and the Ser/Thr kinase Raf (MAPKKK). Raf then binds to and activates MEK (MAPKK) via phosphorylation. MEK, a Ser/Thr and Tyr kinase, activates ERK by phosphorylation of its TxY motifs, namely Thr202/Tyr204 and Thr185/Tyr187 of ERK1 and ERK2, respectively. Both phosphorylation sites are required for ERK activation and no known mutations exist that cause constitutive ERK 1/2 activation. As such, detection of ERK 1/2 phosphorylation is frequently used to assess its activation, as well as that of MEK, a popular drug target. Once activated, ERK phosphorylates a variety of proteins that regulate cellular processes such as cell division, proliferation, survival, differentiation, apoptosis, motility, and metabolism. Due to its established critical role in these processes, the MAPK signaling pathway is a frequent target for oncology-related drug development.

### Components

User Manual

ERK 1/2 (Total) Capture Antibody Reagent (Part No. IOERKCAR1) - 3 mL

ERK 1/2 (Total) Detection Antibody Reagent (Part No. IOERKDAR1) - 3 mL

InstantOne™ Assay Plate (Part No. IOAP96) - 96 well (sealed)

Cell Lysis Buffer (5X) (Part No. IOCLB1) - 12 mL

Enhancer Solution (Part No. IOES1) - 1 mL

Wash Buffer (10X) (Part No. IOWB1) - 15 mL

Detection Reagent (TMB Substrate) (Part No. IODR1) - 12 mL

Stop Solution (Part No. IOSS1) - 12 mL

Positive Control Cell Lysate (lyophilized) (Part No. IOERKPC1) - 0.25 mL

Plate seal - 1 ea

### Applications Tested

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This assay has been validated for the detection of total human ERK 1/2 in stimulated A431 cell lysates. This assay was evaluated for specificity by immunoblot analysis using the same lysates and antibody (data shown above).

### Related Products

85-86012 phospho-ERK 1/2 (Thr202/Tyr204, Thr182/Tyr185) InstantOne ELISA™

85-86013 ERK 1/2 (Total/Phospho) InstantOne ELISA™

85-86014 AKT/ERK Activation InstantOne ELISA™

85-86018 ERK/AKT/p70 S6K Activation InstantOne ELISA™

85-86195 MAPK Family (ERK, p38, JNK) Activation InstantOne ELISA™

IOCLB InstantOne ELISA Cell Lysis Buffer (5X) – 100 mL

IOES InstantOne ELISA Enhancer Solution – 100 mL

IOWB InstantOne ELISA Wash Buffer(10X) – 500 mL