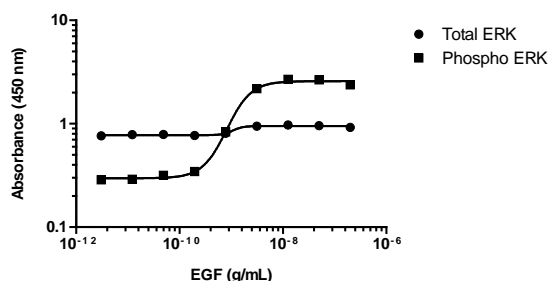


## ERK 1/2 (Total/Phospho) InstantOne ELISA™ Kit

Catalog Number: 85-86013

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/Phospho) InstantOne ELISA™



**Catalog Number:** 85-86013



**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 and phosphorylated 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

This (Total/Phospho) kit includes sufficient reagents to perform 48 wells of the total and 48 wells of the phospho-specific detection for a total of 96 wells.

#### User Manual

ERK 1/2 (Total) Capture Antibody Reagent (Part No. IOERKCAR1M) – 1 x 1.5 mL

ERK 1/2 (Total) Detection Antibody Reagent (Part No. IOERKDAR1M) – 1 x 1.5 mL

phospho-ERK 1/2 (Thr202/Tyr204, Thr185/Tyr187) Capture Antibody Reagent (Part No. IOPERKCAR1M) -1 x 1.5 mL

phospho-ERK 1/2 (Thr202/Tyr204, Thr185/Tyr187) Detection Antibody Reagent (Part No. IOPERKDAR1M) -1 x 1.5mL

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

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Positive Control Cell Lysate (lyophilized) (Part No. IOERKPC1) - 1 ea

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

Stop Solution (Part No. IOSS1) - 12 mL

Plate Seal - 1 ea

### Applications Tested

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

### Related Products

85-86011 ERK 1/2 (Total) InstantOne ELISA™

85-86012 phospho-ERK 1/2 (Thr202/Tyr204, Thr185/Tyr187) 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) - 100mL

IOES InstantOne ELISA Enhancer Solution – 100mL

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