



## RayBiotech, Inc.

3607 Parkway Lane suite 200  
Norcross, GA 30092  
Tel: 770-729-2992, 1-888-494-8555  
Fax: 770-206-2393  
Website: [www.raybiotech.com](http://www.raybiotech.com)  
Email: [info@raybiotech.com](mailto:info@raybiotech.com)

# Certificate of Analysis and Data Sheet

## Recombinant Human ERK2/MAPK1 Active Enzyme

**Catalog No.**

228-10415

**Source:**

*Escherichia Coli.*

**Synonyms**

Mitogen-activated protein kinase 1, EC 2.7.11.24, Extracellular signal-regulated kinase 2, ERK-2, Mitogen-activated protein kinase 2, MAP kinase 2, MAPK 2, p42-MAPK, ERT1, ERK, p38, p40, p41, ERK2, MAPK2, PRKM1, PRKM2, P42MAPK, p41mapk.

**Introduction**

Mitogen-activated protein kinase 1 (MAPK1) is also known as "extracellular signal-regulated kinase 2" (ERK2). Two similar (85% sequence identity) protein kinases were originally called ERK1 and ERK2. They were found during a search for protein kinases that are rapidly phosphorylated after activation of cell surface tyrosine kinases such as the epidermal growth factor receptor. Phosphorylation of ERKs leads to the activation of their kinase activity.

The molecular events linking cell surface receptors to activation of ERKs are complex. It was found that RasGTP-binding proteins are involved in the activation of ERKs. Another protein kinase, Raf-1, was shown to phosphorylate a "MAPK kinase", thus qualifying as a "MAPK kinase kinase". The MAPK kinase was named "MAPK/ERK kinase" (MEK).

Receptor-linked tyrosine kinases, Ras, Raf, MEK and MAPK could be fitted into a signaling cascade linking an extracellular signal to MAPK activation.

Transgenic gene knock-out mice lacking MAPK1 have major defects in early development.

**Description**

MAPK1 Recombinant (extracellular signal-regulated kinase) a Mitogen-Activated Protein Kinase, is a highly active form produced by phosphorylation of the purified ERK2/MAPK1 in vitro with MEK1 is a non-glycosylated polypeptide having a molecular mass of 44.6 kDa. MAPK1 is purified by proprietary chromatographic techniques.

**Physical Appearance**

Sterile Filtered clear solution.

**Formulation**

MAPK1 is supplied containing 50mM Tris-HCL, 150mM NaCl, 1mM DTT, 50% glycerol, pH 8.5.

**Specific Activity**

Specific Activity is 470.000 Units/mg.

**The products are furnished for LABORATORY RESEARCH USE ONLY.  
Not for diagnostic or therapeutic use.**



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### ***Unit Definition***

1 U = 1 pmol/min transferred to myelin basic protein at 30°C.

### ***Storage Conditions***

Store at 4°C if entire vial will be used within 2-4 weeks. Store, frozen at -20°C for longer periods of time.

**Avoid multiple freeze-thaw cycles.**

### ***Purity***

Greater than 95.0% as determined by SDS-PAGE.

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