

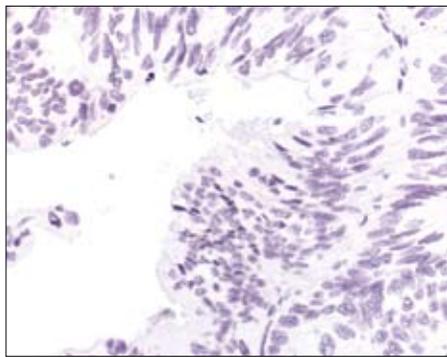
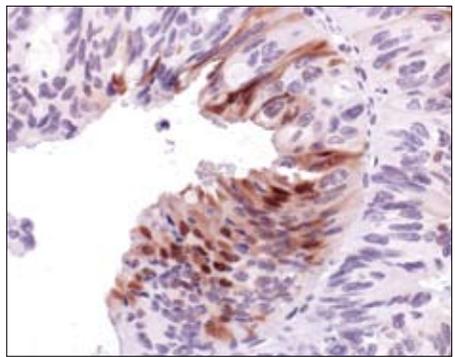
# Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) Blocking Peptide

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✓ 100 µg

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Immunohistochemical analysis of paraffin-embedded human colon carcinoma using Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (20G11) Rabbit mAb #4376 preincubated with control peptide (left) or with Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) Blocking Peptide (right).

**Description:** This peptide is used to specifically block Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (D13.14.4E) Rabbit mAb #4370 and Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (20G11) Rabbit mAb #4376 reactivity by immunohistochemistry. It can also be used in conjunction with other Cell Signaling phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) antibodies and in other applications.

**Background:** Mitogen-activated protein kinases (MAPKs) are a widely conserved family of serine/threonine protein kinases involved in many cellular programs such as cell proliferation, differentiation, motility, and death. The p44/42 MAPK (ERK1/2) signaling pathway can be activated in response to a diverse range of extracellular stimuli including mitogens, growth factors, and cytokines (1-3) and is an important target in the diagnosis and treatment of cancer (4). Upon stimulation, a sequential three-part protein kinase cascade is initiated, consisting of a MAP kinase kinase kinase (MAPKKK), a MAP kinase kinase (MAPKK), and a MAP kinase. While multiple ERK1/2 MAP3Ks have been identified, including the Raf family, Mos, and Tpl2/Cot, MEK1 and MEK2 are the primary MAPKKs in this pathway (5,6). MEK1 and MEK2 activate ERK1/p44 and ERK2/p42 through phosphorylation of activation loop residues Thr202/Tyr204 and Thr185/Tyr187, respectively. Several downstream targets of ERK1/2 have been identified, including p90RSK (7) and the transcription factor Elk-1 (8,9). ERK1/2 are negatively regulated by a family of dual-specificity (Thr/Tyr) MAPK phosphatases, known as DUSPs or MKPs (10), along with MEK inhibitors such as U0126 and PD98059.

**Quality Control:** The quality of the peptide was evaluated by reversed-phase HPLC and by mass spectrometry. The peptide blocks Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (D13.14.4E) Rabbit mAb #4370 and Phospho-p44/42 MAPK (Erk1/2) (Thr202/Tyr204) (20G11) Rabbit mAb #4376 signal completely in immunohistochemistry.

**Notes on Use:** For immunohistochemistry, add twice the volume of peptide as volume of antibody used in 100 µl total volume. Incubate for a minimum of 30 minutes prior to adding the entire volume to the slide. Recommended antibody dilutions can be found on the product data sheet. Peptide volume should be determined empirically for other applications.

**Applications:** Use as a blocking reagent to evaluate the specificity of antibody reactivity in immunocytometry protocols.

**Storage:** Supplied in 20 mM potassium phosphate (pH 7.0), 50 mM NaCl, 0.1 mM EDTA, 1 mg/ml BSA and 5% glycerol. Store at -20°C.

- Companion Products:**
- Phospho-p44/42 MAPK (Thr202/Tyr204) (20G11) Rabbit mAb #4376
  - Phospho-p44/42 MAPK (Thr202/Tyr204) (D13.14.4E) Rabbit mAb #4370
  - Phospho-p44/42 MAP Kinase (Thr202/Tyr204) Antibody #9101
  - Phospho-p44/42 MAPK (Thr202/Tyr204) (E10) Mouse mAb #9106
  - Phospho-p44/42 MAPK (Thr202/Tyr204) (197G2) Rabbit mAb #4377
  - SignalSlide™ Phospho-p44/42 MAPK (Thr202/Tyr204) IHC Controls #8103

- Background References:**
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  - (5) Rubinfeld, H. and Seger, R. (2005) *Mol Biotechnol* 31, 151-74.
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  - (7) Dalby, K.N. et al. (1998) *J Biol Chem* 273, 1496-505.
  - (8) Marais, R. et al. (1993) *Cell* 73, 381-93.
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