



cell signaling solutions

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## Certificate of Analysis

10 Old Barn Road • Lake Placid, NY 12946  
Technical Support: T: 800 548-7853 • F: 518 523-4513  
email: techserv@upstate.com  
Sales Department: T: 800 233-3991 • F: 781 890-7738  
Licensing Dept.: 800 310-4659  
www.upstate.com

### Anti-Phosphotyrosine Immunoblotting Kit (HRP-conjugated 4G10)

Catalog # 17-123

Lot # 25379

#### Kit Components

**Anti-Phosphotyrosine (4G10), HRP-Conjugated**, Catalog # 16-105, Lot # 24978, see page two for more information. One vial containing **200µg** of IgG<sub>2bκ</sub>-HRP conjugate in **100µl** PBS containing 0.01% merthiolate. Sufficient for **10 immunoblots** if used at the optimum concentration of 2µg/ml in 10ml blocking buffer.

**Phosphotyrosine Control (EGF-stimulated A431 cell lysate)**, Catalog # 12-110, Lot # 25118, see page two for more information. **1mg** provided in 2 vials, each vial containing **500µg** in **250µl** of RIPA sample buffer, with a final concentration of 2µg/µl protein.

**Blocking Buffer**, Catalog # 20-200. One vial containing **20g** of nonfat dry milk fortified with vitamin A palmitate and vitamin D<sub>2</sub>, containing no preservatives.

**FOR RESEARCH USE ONLY  
NOT RECOMMENDED OR INTENDED FOR DIAGNOSIS OF DISEASE IN HUMANS OR ANIMALS  
DO NOT USE IN HUMANS**

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#### Kit Description

**Quantity:** 10 immunoblots per kit.

**Quality Control:** The reagents in this kit have been carefully matched with special attention directed to the sensitivity of detection and the 'strength' of the signal produced.

**Storage and Stability:** Stable for 6 months at 2-8°C from date of shipment. **Note:** Store Catalog # 12-110, Phosphotyrosine Control, at -20°C for optimal performance. Do not use sodium azide with Catalog # 16-105, as it is an inhibitor of horseradish peroxidase.

**Use:** Read the enclosed protocol before use.

### **Technical Information for Kit Components**

#### **Anti-Phosphotyrosine (4G10), HRP-Conjugated, (mouse monoclonal IgG<sub>2bk</sub>)**

**Antibody Class:** IgG<sub>2bk</sub> mouse monoclonal antibody produced *in vitro* by mouse-mouse hybridoma 4G10. Purified by Protein A-Sepharose chromatography and cross-linked to horseradish peroxidase.

**Physical Form:** Liquid.

**Note:** Centrifuge the original vial prior to removing the cap for maximum recovery of the product.

**Immunogen:** Phosphotyramine-KLH.

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#### **References:**

Cohen, B., *et al.*, Proc. Natl. Acad. Sci. USA **87**: 4458-4462, 1990.  
Druker, B.J., *et al.*, New Eng. J. Med. **321**: 1383-1391, 1989.  
Kanakura, Y., *et al.*, J. Biol. Chem. **266**: 490-495, 1991.

#### **Phosphotyrosine Control (EGF-stimulated A431 cell lysate)**

**Product Description:** Cellular protein preparation from A431 cells containing phosphorylated EGF receptor. A431 cells were cultured for 20 minutes in the presence of 50ng/ml EGF (Catalog # 01-107). Cells were lysed in modified RIPA buffer (50mM Tris-HCl, pH 7.4, 1% NP40, 0.25% sodium deoxycholate, 150mM NaCl, 1mM EDTA, 1mM PMSF, 1µg/ml aprotinin, 1µg/ml leupeptin, 1µg/ml pepstatin, 1mM Na<sub>3</sub>VO<sub>4</sub>, 1mM NaF).

**Storage and Stability:** Stable for 6 months at -20°C from date of shipment. For maximum recovery of product, centrifuge the original vial after thawing and prior to removing the cap. Aliquot to avoid repeated freezing and thawing.

**Physical Form:** Frozen solution.

## Immunoblot Analysis Protocol

### Reagent Preparation:

**Blocking Buffer:** Dissolve 0.9g of Blocking Reagent (Catalog # 20-200) in 30ml of phosphate buffered saline (PBS), pH 7.4. Check pH.

**Primary Antibody Solution:** Add 5-10 $\mu$ l (10-20 $\mu$ g) of Anti-Phosphotyrosine (4G10), HRP-Conjugated to 10ml of **FRESHLY** prepared "Blocking Buffer". Mix well and store at 2-8°C. Some tyrosine phosphorylated proteins may require more antibody to be detected. **NOTE:** This solution can be reused **ONCE** within one week.

### Procedure:

#### Prior to Immunodetection:

1. Prepare the samples and "Positive Control" (Catalog # 12-110) for electrophoresis and blotting. Load the SDS-PAGE gel with the samples to be tested and 10 $\mu$ l of the Positive Control.

**Note: A positive control should be included with every analysis.**

2. Perform electrophoresis and blot to nitrocellulose filter paper.
3. Wash the nitrocellulose filter two times with fresh changes of PBS or distilled water.

#### Immunodetection:

1. Block the blotted nitrocellulose filter by immersing in 10ml of **freshly** prepared "Blocking Buffer" for 30 minutes at room temperature.
2. Incubate the nitrocellulose filter in the "Primary Antibody Solution" overnight at 2-8°C. The solution can be saved for one additional use.
3. Wash the nitrocellulose filter two times with fresh changes of PBS or distilled water.
4. Wash the nitrocellulose filter in PBS-0.05% Tween 20 for 3-5 minutes with constant rocking.
5. Rinse the nitrocellulose filter four times with fresh changes of PBS or distilled water.
6. **The nitrocellulose filter membrane can be developed by one of the following two methods.**
  - A. Incubate the nitrocellulose in developing reagent [1ml chloronaphthol solution, 30mg/ml in methanol), 10ml methanol, 39ml TBS, and 30 $\mu$ l of freshly prepared 30% hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>)] for 5-30 minutes. Replace developing reagent as heavy precipitate forms. Stop development by washing membrane with distilled water (3 changes in 30 minutes). Photocopy or photograph to preserve a permanent record.
  - B. Follow with standard enhanced chemiluminescence (ECL) detection reagents. ECL detection is **highly** recommended (a 1 second exposure was used when testing this lot).