BACKGROUND
The EGF receptor family comprises several related receptor tyrosine kinases that are frequently overexpressed in a variety of carcinomas. Members of this receptor family include EGFR (HER1), Neu (ErbB-2, HER2), ErbB-3 (HER3) and ErbB-4 (HER4), which form either homodimers or heterodimers upon ligand binding. Exons in the EGFR gene product are frequently either deleted or duplicated to produce deletion mutants (DM) or tandem duplication mutants (TDM), respectively, which are detected at various molecular weights. EGFR binds several ligands including epidermal growth factor (EGF), transforming growth factor α (TGFα), Amphiregulin and heparin binding-EGF (HB-EGF). Ligand binding promotes the internalization of EGFR via Clathrin-coated pits and its subsequent degradation in response to its intrinsic tyrosine kinase. EGFR is involved in organ morphogenesis and maintenance and repair of tissues, but upregulation of EGFR is associated with tumor progression. The oncogenic effects of EGFR include initiation of DNA synthesis, enhanced cell growth, invasion and metastasis. Abrogation of EGFR results in cell cycle arrest, apoptosis or dedifferentiation of cancer cells, suggesting that EGFR may be an effective therapeutic target.

CHROMOSOMAL LOCATION
Genetic locus: EGFR (human) mapping to 7p11.2; Egfr (mouse) mapping to 11 A2.

SOURCE
EGFR (A-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1114-1147 within a C-terminal cytoplasmic domain of EGFR of human origin.

PRODUCT
Each vial contains 200 µg IgG2a kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

EGFR (A-10) is available conjugated to agarose (sc-373746 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373746 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; and to either phycoerythrin (sc-373746 PE), fluorescein (sc-373746 FITC), Alexa Fluor® 488 (sc-373746 AF488) or Alexa Fluor® 647 (sc-373746 AF647), 200 µg/ml, for IF, IHC(P) and FCM.

Blocking peptide available for competition studies, sc-373746 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA.

STORAGE
Store at 4°C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS
See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS
EGFR (A-10) is recommended for detection of EGFR of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).


Molecular Weight of EGFR: 170 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa whole cell lysate: sc-2200 or BT-20 cell lysate: sc-2223.

DATA

SELECT PRODUCT CITATIONS

RESEARCH USE
For research use only, not for use in diagnostic procedures.