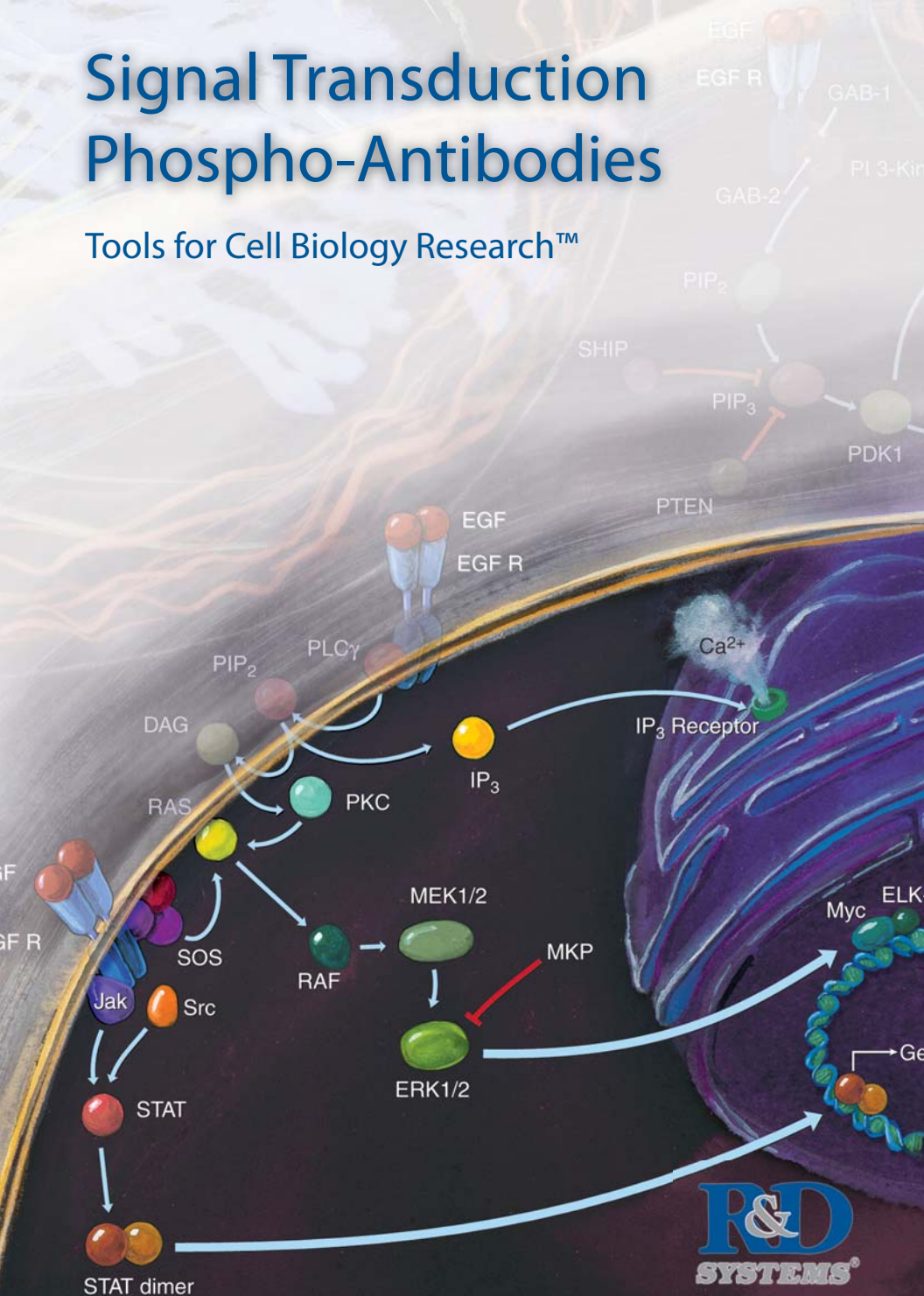


Signal Transduction Phospho-Antibodies

Tools for Cell Biology Research™

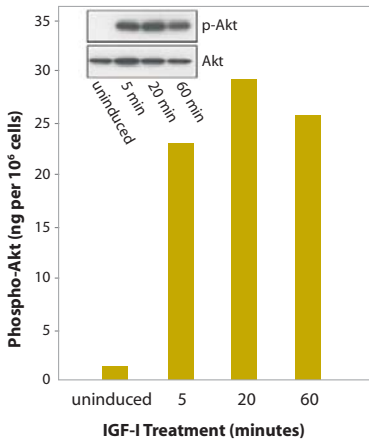




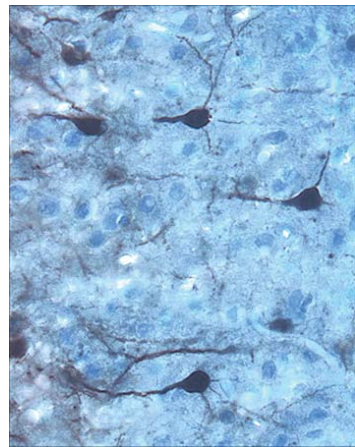
Signal Transduction Antibodies

Phosphorylation is a ubiquitous mechanism for modifying protein function that influences virtually all cellular activities. Abnormal protein phosphorylation is associated with many pathological conditions, including cancer, nervous system disorders, abnormal development, and immune

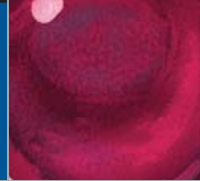
system dysfunction. R&D Systems offers a wide selection of high quality antibodies designed to recognize site-specific phosphorylation. These antibodies are tested for use in a range of techniques, including IHC, Western blot, flow cytometry, and more.



Phosphorylated and Total Akt in MCF-7 Cells. Human MCF-7 (breast adenocarcinoma) cells were treated with recombinant human IGF-I (Catalog # 291-G1). Lysates were assessed by Western blot (inset) with rabbit anti-human/mouse/rat phospho-Akt (S473) polyclonal antibody (Catalog # AF887) or anti-human/mouse/rat Akt (Pan) monoclonal antibody (Catalog # MAB2055). The results are consistent with phosphorylated Akt levels detected by the Surveyor™ IC Immunoassay (Catalog # SUV887; histogram).



Phospho-ERK1/ERK2 in Rat Brain. Phosphorylated ERK1/ERK2 was detected in a frozen tissue section of rat brain cortex using anti-human/mouse/rat phospho-ERK1/ERK2 polyclonal antibody (Catalog # AF1018). Tissue was stained using the anti-rabbit HRP-DAB Cell and Tissue Staining Kit (Catalog # CTS005; brown) and counterstained with hematoxylin (blue).

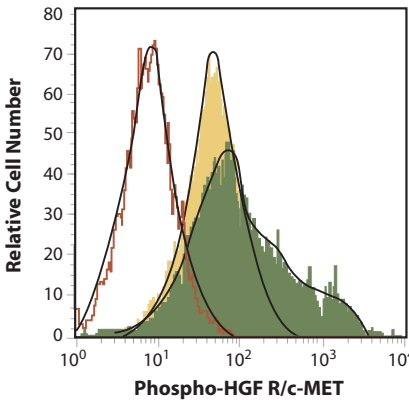


Phospho-Antibodies offered by R&D Systems

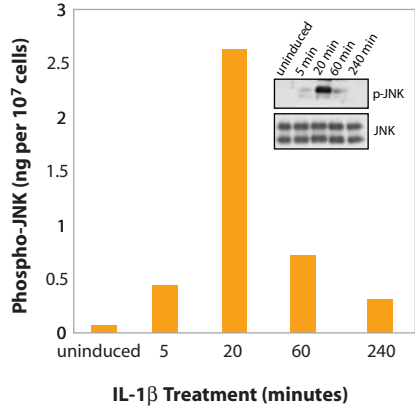
Molecule	Species Available & Phosphorylation Site(s)
53BP1	Human (S25)
5-Lipoxygenase	Human, Rat (S523)
14-3-3	Human, Mouse, Rat, <i>Xenopus</i> (S58)
Akt	Human, Mouse, Rat (S473), Human, Mouse, Rat (T308)
AMPK α 1/2	Human (T174/T172)
APP	Human (T668)
ATM	Human, Mouse, Rat (S1981)
Axl	Human (Y779)
BRCA1	Human (S1423)
CaM Kinase II	Human, Mouse, Rat, Bovine, Chicken, <i>Xenopus</i> (T286), Human, Mouse, Rat, Bovine, Chicken, <i>Xenopus</i> (T305)
β -Catenin	Human, Mouse, Rat, <i>Xenopus</i> (S33/S37)
CDC2	Human, Mouse, Rat (Y15)
Chk1	Human (S345), Mouse, Rat (S317)
Chk2	Human (T68)
Connexin-43	Human, Mouse, Primate, Rat (S368)
CREB	Human, Mouse (S133)
DARPP-32	Mouse, Rat (T34)
Dynamin	Human, Mouse, Rat (S774), Human, Mouse, Rat (S778)
EGF R	Human (Y1068), Human (Y1173), Human (Y845)
Elk-1	Human, Mouse, Rat (S383)
Ephrin-B	Human, Mouse, Rat, Chicken, <i>Xenopus</i> (Y317), Human, Mouse, Rat, Chicken, <i>Xenopus</i> (Y328), Human, Mouse, Rat, Chicken, <i>Xenopus</i> (Y343)
ErbB2	Human (Y1248)
ERK1/ERK2	Human, Mouse, Rat (T202/Y204)
FAK	Human (Y397)
FGF R1-4	Human (Y653/Y654)
Flt-3/Flk-2	Human (Y591)
GAP-43	Human, Mouse, Rat (S41)
GluR1	Human, Mouse, Rat (S831), Human, Mouse, Rat (S845)
GSK-3 α / β	Human, Mouse, Rat (S21/S9)
GSK-3 α	Human, Mouse, Rat (S21)
H2AX	Human (S139)
HGF R	Human (Y1003), Human (Y1234/Y1235), Human (Y1349)

Abbreviation key:

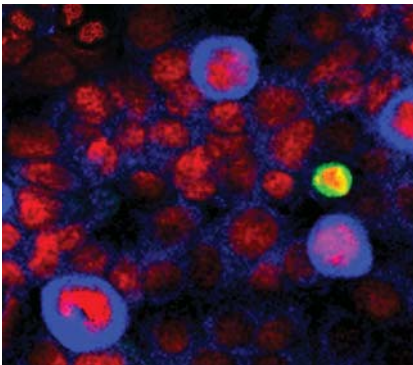
B: Bovine **Ca:** Canine **Ch:** Chicken **H:** Human **M:** Mouse **P:** Primate **R:** Rat **X:** *Xenopus* **Z:** Zebrafish



Phospho-HGF R (Y1234/Y1235) Detection by Flow Cytometry. Human MCF-7 (breast adenocarcinoma) cells were untreated (light brown histogram) or treated with the phosphatase inhibitor pervanadate (green histogram). Cells were incubated with anti-human/mouse phospho-HGF R/c-MET (Y1234/Y1235) polyclonal antibody (Catalog # AF2480) or control antibody (Catalog # AB-105-C, open histogram) and stained with a phycoerythrin-conjugated anti-rabbit secondary antibody (Catalog # F0110).



Phosphorylated JNK in IL-1 β -treated HepG2 Cells. Human HepG2 hepatocellular carcinoma cells were treated with recombinant human IL-1 β (Catalog # 201-LB) for the indicated times. Cell lysates were assessed by Western blot (inset) using rabbit anti-human/mouse/rat phospho-JNK(T183/Y185)(Catalog # AF1205) or rabbit anti-human/mouse/rat JNK (Catalog # AF1387) polyclonal antibodies. The results are consistent with the total amounts of p-JNK using the same lysates and the Phospho-JNK DuoSet® IC ELISA (Catalog # DYC1387; histogram).



Total and Phospho-p27/Kip1 in MCF-7 (human breast adenocarcinoma) cells. Total p27 and phospho-p27 (T157) were detected using anti-human/mouse/rat total p27 monoclonal antibody (Catalog # MAB2256) and anti-human phospho-p27 polyclonal antibody (Catalog # AF1555) in cells fixed with cold absolute ethanol. Staining of total p27 was done using anti-mouse NorthernLights-493 secondary antibody (Catalog # NL009; green) and phospho-p27 staining was done using anti-rabbit NorthernLights-637 secondary antibody (Catalog # NL005; blue pseudocolor). The nuclei were counterstained with propidium iodide (red).

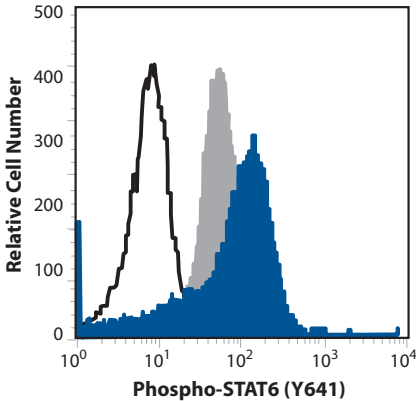


Phospho-Antibodies offered by R&D Systems

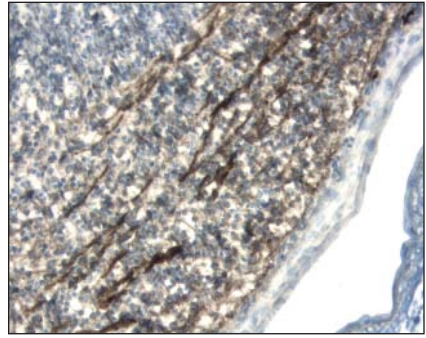
Molecule	Species Available & Phosphorylation Site(s)
HSP27	Human, Mouse (S78/S82)
Insulin R/IGF-1R	Human (Y1162/Y1163)/(Y1135/Y1136)
Leptin R	Human (Y985)
JNK	Human, Mouse, Rat (T183/Y185)
MARCKS	Human, Mouse, Rat, <i>Xenopus</i> (S152/S156)
MBP	Human, Mouse, Rat, Bovine (T98)
M-CSF R	Human (Y723)
MEK1/MEK2	Human, Mouse, Rat (S218/S222)/(S222/S226)
MKK4	Human, Mouse, Rat (S257/T261)
MSK1	Human (S212)
MSK1/MSK2	Human (S376)/(S360)
MSK2	Human, Mouse (S196)
NMDA R, NR2B Subunit	Human, Rat, Primate (Y1252), Human, Mouse, Rat (Y1336), Human, Mouse, Rat (Y1472)
p27/Kip1	Human (T157, T198)
p38	Human, Mouse, Rat (T180/Y182)
p53	Human (S15), Mouse (S18), Human (S20), Human (S37), Human (S392), Human (S46)
p70 S6 Kinase	Human (T229), Human (T389), Human, Mouse, Rat (T421/S424)
PAK	Human, Mouse, Rat, Primate (T402)
PDGF R α	Human (Y742), Human (Y762)
PDGF R β	Human (Y751), Human (Y102)
PLKK	Human, Mouse, Rat, <i>Xenopus</i> , Zebrafish (S482/S486/S490)
Potassium Channel Kv3.1	Rat (S503)
PP2A	Human, Mouse, Rat (Y307)
Progesterone R/NR3C3	Human (S190), Human (S294)
PTEN	Human, Mouse, Rat (S380)
Rad17	Human (S635)
Raf-1	Human, Mouse, Rat, <i>Xenopus</i> (S301), Human, Mouse, Rat (S642)
Ret	Human (Y905)
Ribosomal Protein S6	Human, Mouse, Rat (S235/S236)
RSK (pan)	Human, Mouse, Rat (S380), Human, Mouse, Rat (T573)
RSK1/RSK2	Human, Mouse, Rat (S221/S227)
RSK3	Human, Mouse (S218)

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Phospho-STAT6 Detected by Flow Cytometry. Phosphorylated STAT6 was detected in Daudi human lymphoma cells that were treated with interleukin-4 (Catalog # 204-IL) (blue histogram) or untreated (gray histogram) using anti-human STAT6 (Y641) polyclonal antibody (Catalog # AF3717). Cells were stained with allophycocyanin-conjugated goat anti-rabbit antibody (Catalog # F0111). Staining with a control antibody (Catalog # AB-105-C; open histogram) indicates the specificity of the phospho-STAT6 antibody.

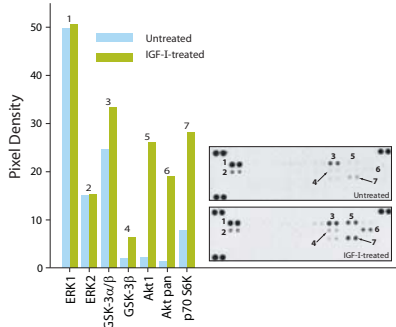


Phospho-Tie-2 in Developing Mouse Brain. Phospho-Tie-2 (Y1100) was detected in a cryostat section of developing mouse brain (medulla oblongata; 15 d.p.c.) using anti-human/mouse Tie-2 (Y1100) polyclonal antibody (Catalog # AF3909). The tissue was stained using the anti-rabbit HRP-DAB Cell and Tissue Staining Kit (Catalog # CTS005; brown) and counterstained with hematoxylin (blue).

Proteome Profiler™ Phospho-Antibody Arrays

The Proteome Profiler™ Antibody Arrays are screening tools to simultaneously detect the relative phosphorylation of multiple proteins in each sample. No specialized equipment is necessary.

Available Phospho-Arrays	Catalog #
Phospho-MAPK Array Measure 19 Kinases	ARY002
Phospho-RTK Array Measure 42 Receptor Tyrosine Kinases	ARY001
Phospho-Immuneceptor Array Measure 59 Immuneceptors	ARY004



Human MCF-7 cells were either untreated, or treated with 100 ng/mL of IGF-1 (Catalog # 291-G1) for one hour. The Phospho-MAPK Array (Catalog # ARY002) was used to measure relative kinase phosphorylation. Array signals from scanned X-Ray film images were used to generate a phospho-kinase profile (histogram).

>>> Please see www.RnDSystems.com/go/ProteomeProfiler for details.



Phospho-Antibodies offered by R&D Systems

Molecule	Species Available & Phosphorylation Site(s)
SCF R/c-kit	Human (Y730)
SHP-2	Human, Mouse (Y542)
Smad3	Human (S423/S425)
SMC1	Human (S966)
Src	Human (Y419)
STAT1	Human, Mouse (Y701)
STAT2	Human, Mouse (Y689)
STAT4	Human (Y693)
STAT5a/b	Human (Y699)
STAT6	Human (Y641)
Synapsin I	Human, Mouse, Rat, <i>Xenopus</i> (S9), Human, Mouse, Rat, <i>Xenopus</i> (S603)
TAO2	Human, Mouse, Rat, <i>Xenopus</i> (S181)
Tie-2	Human, Mouse (Y1100), Human, Mouse (Y992)
TOR	Human (S2448)
TrkA	Human, Mouse, Rat (Y490)
Tryptophan Hydroxylase	Human, Mouse, Rat, <i>Xenopus</i> (S260), Human, Mouse, Rat, Canine, Primate, <i>Xenopus</i> (S58)
Phospho-Tyrosine	Pan
Tyrosine Hydroxylase	Rat (S19), Mouse, Rat (S31), Rat (S40)
VEGF R1/Flt-1	Human (Y1213)
VEGF R2/KDR/Flk-1	Human (Y1214)



For further information on all R&D Systems Signal Transduction products, please visit our website at www.RnDSystems.com/go/SignalTransduction.

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Tools for Cell Biology Research™



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