Phosphorylation Assays

ELISAs, Arrays & Reagents for Detecting Phosphorylated Proteins

SIGNALING PATHWAY PROFILING / TOTAL & PHOSPHORYLATED PROTEIN ANALYSIS / FULL TESTING SERVICES

DISCOVER YOUR PATHWAY

OVER 350 PHOSPHORYLATION PRODUCTS

Sandwich ELISAs

Cell-Based ELISAs

Phosphorylation Arrays

> 5,000 Activators & Inhibitors

Auto-Western Service

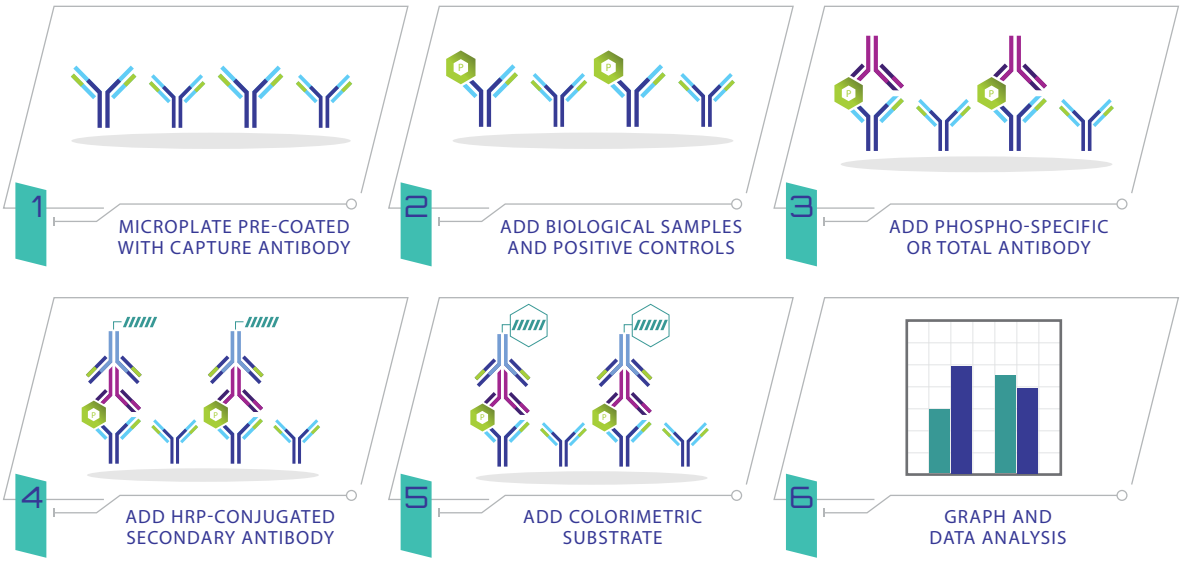
Phosphorylation ELISAs

Browse phospho ELISA:

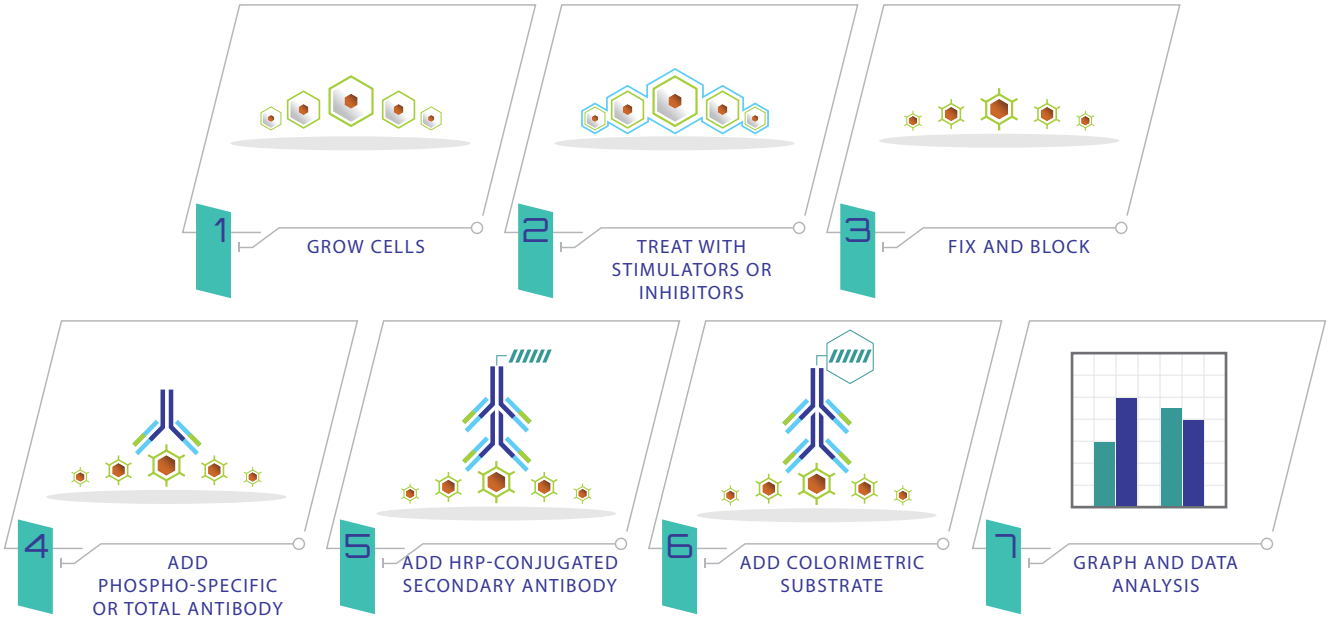
RayBio® Phosphorylation ELISA kits are rapid, convenient, and sensitive. They allow the researcher to monitor the activation of biological pathways in cell or tissue lysates, or to directly detect protein phosphorylation in cultured cells. Many of our ELISAs can analyze total and phosphorylated protein levels simultaneously.

how they work

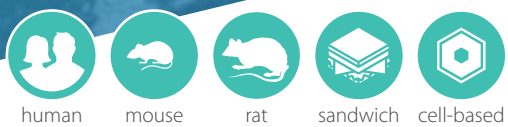
SANDWICH-BASED PHOSPHORYLATION ELISA



CELL-BASED PHOSPHORYLATION ELISA



Phosphorylation ELISAs
by research area



** Not all phosphorylated targets available in all formats.*

FULL TESTING SERVICES
Send us your samples, we'll send you results

100% GUARANTEED
We stand by our ELISA products

TOTAL & PHOSPHORYLATION ANALYSIS
available on one plate

Alzheimer's Disease
APP (T668)

AMPK Signaling
4EBP1 (Thr36)
ACC1 (S79)
AMPKA (S487)
CYCLINB1 (S126)
INSR (Y1189)
LKB1 (S428)
mTOR (S2448)
P70S6K (T421)

Angiogenesis
eNOS (S1177)
IGF1R (Y1165)
PDGFRA (Y)
PDGFRB (Y)
PDGFRb (Y751)
SMAD2 (S245)
TIE1 (Y)
TIE2 (Y)
VEGFR2 (Y)
VEGFR2 (Y996)
VEGFR3 (Y)

Apoptosis
ATM (S1981)
ATR (T1989)
BAD (S112)
Chk1 (S280)
Chk2 (T68)
HSP27 (S82)
RSK1 (S380)
RSK2 (S386)

Autophagy
AMPKA (S487)
mTOR (S2448)
PRAS40 (T246)
ULK1 (S556)

B Cell Receptor Signaling
AFT2 (T69)
BTK (Y)
BTK (Y551)
IKBa (S32)
NFKBP65 (S536)
PLCG2 (Y753)
PTEN (S380)
PYK2 (Y)
PYK2 (Y402)
Raf1 (S301)
SHC (Y427)
SHIP (Y1020)
SHP1 (S591)
SHP2 (Y542)

Cell Adhesion
Caveolin (Y14)
FAK (Y)
FAK (Y397)
FYN (Y530)
SRC (Y419)

Cell Cycle
ABL1 (Y245)
ATR (T1989)
CDK1 (T161)
Chk1 (S280)
Chk2 (T68)
CYCLINB1 (S126)
FOXO3 (S253)
HDAC2 (S394)
P27 (T198)
P53 (S15)
PKMYT1 (T495)
RB (T826)

Cytoskeletal Reorganization
PAK2 (S20)

DNA Damage
ABL1 (Y245)
ATM (S1981)
ATR (T1989)
CDK1 (T161)
Chk1 (S280)
Chk2 (T68)
CYCLINB1 (S126)
H2AX (S139)
Nbs1 (S343)
P53 (S15)
PKMYT1 (T495)
RSK1 (S380)
RSK2 (S386)

Epigenetics/ Chromatin Remodeling
HDAC4 (S632)

HER/ErbB Family
ABL1 (Y245)
C-Fos (T232)
EGFR (S1070)
EGFR (Y)
EGFR (Y1045)
EGFR (Y1068)
EGFR (Y1086)
EGFR (Y845)
EGFR (Y992)
ERBB2 (Y)
ErbB3 (Y)
ErbB3 (Y1262)
ERBB4 (Y)
PLCG2 (Y753)
Raf1 (S301)
SHC (Y427)
SHP2 (Y542)

Inflammation
IKBa (S32)
NFKBP65 (S536)

Insulin Signaling
AKT (S473)
AMPKA (S487)
eIF4E (S209)
GSK3a (S21)
GSK3b (S9)
IGF1R (Y)
IGF1R (Y1165)
INSR (Y1189)
INSULINR (Y)
LKB1 (S428)
P70S6K (T421)
SHIP (Y1020)
SHP2 (Y542)

JAK/STAT Signaling
JAK1 (Y)
JAK1 (Y1022)
JAK2 (Y)
JAK2 (Y1007)
JAK3 (Y)
STAT1 (S727)
STAT1 (Y)
STAT1 (Y701)
STAT2 (Y689)
STAT3 (Y)
STAT3 (Y705)
STAT4 (Y)
STAT5 (Y)
STAT5A (Y694)
STAT6 (Y)
STAT6 (Y641)
TYK2 (Y)

MAPK Signaling
AFT2 (T69)
C-Fos (T232)
CREB (S133)
ERa (S118)
Erk (T202)
ERK12 (Y)
ERK2 (T185)
FOXO3 (S253)
JNK (T183)
JNK (Y)
JUN (S63)
MEK (S217)
MEK (Y)
MKK3 (S189)
MKK6 (S207)
MSK1 (S376)
MSK2 (S360)
P38 (T180)
P38 (Y)
PAK2 (S20)
Raf1 (S301)
RSK1 (S380)
RSK2 (S386)
SHC (Y427)
TAK1 (S412)
WNK1 (T60)

mTOR Signaling
AKT (S473)
GSK3a (S21)
GSK3b (S9)
P70S6K (T421)
PRAS40 (T246)

Neuroscience
CREB (S133)
NGFR (Y)

NF-κB Signaling
HDAC2 (S394)
IKBa (S32)
MSK1 (S376)
NFKBP65 (S536)
TAK1 (S412)
TBK1 (S172)

PI3K-AKT Signaling
4EBP1 (Thr36)
AKT (S473)
eNOS (S1177)
GSK3a (S21)
GSK3b (S9)
mTOR (S2448)
PDK1 (S241)
PRAS40 (T246)
Rictor (T1135)
RPS6 (S235)

PKC Signaling
Marcks (S152)

Protein Folding
HSP27 (S82)

Stem cell
SMAD1 (S463)
SMAD2 (S245)
SMAD4 (T277)
SMAD5 (S463)

T cell Receptor
C-Fos (T232)
IKBa (S32)
LAT (Tyr112)
LAT (Tyr112)
LCK (Y)
LCK (Y394)
NFKBP65 (S536)
ZAP70 (Y)

TGF-β
SMAD1 (S463)
SMAD2 (S245)
SMAD4 (T277)
Smad5 (S463)

Toll-like Receptors
IRF3 (S386)

Translation
4EBP1 (Thr36)
eIF2a (s52)
eIF4E (S209)
LKB1 (S428)
Rictor (T1135)
RPS6 (S235)

Tyrosine Kinase Family
ACK1 (Y)
ALK (Y)
AXL (Y)
AXL (Y779)
BLK (Y)
BMX (Y)
BTK (Y)
BTK (Y551)
CSK (Y)
DDR1 (Y792)
DDR2 (Y740)
DTK (Y)
EGFR (Y)
EPHA1 (Y)
EPHA2 (Y)
EPHA3 (Y)
EPHA4 (Y)
EPHA5 (Y)
EPHA6 (Y)
EPHA7 (Y)
EPHA8 (Y)
EPHB1 (Y)
EPHB2 (Y)
EphB3 (Y)
EPHB4 (Y)
EPHB6 (Y)
ERBB2 (Y)
ErbB3 (Y)
ERBB4 (Y)
FAK (Y)
FAK (Y397)
FER (Y)
FGFR1 (Y)
FGFR2 (Y)
FGR (Y)
FLT3 (Y589)
FRK (Y)
FYN (Y)
FYN (Y530)
HCK (Y) IGF1R (Y)
IGF1R (Y1165)
iNOS (Y)
INSR (Y1189)
INSULINR (Y)
ITK (Y)
ITK (Y)
JAK1 (Y)
JAK1 (Y1022)
JAK2 (Y)
JAK2 (Y1007)
LCK (Y)
LCK (Y394)
LTK (Y)
LYN (Y)
MATK (Y)
MCSFR (Y)
MET (Y)
Met (Y1234)
MUSK (Y)
NGFR (Y) NGFR (Y)
PDGFRA (Y)
PDGFRB (Y)
PDGFRb (Y751)
PTEN (S380)
PYK2 (Y)
PYK2 (Y402)
RET (Y)
ROR1 (Y)
ROR2 (Y)
ROS (Y)
RYK (Y)
SCFR (Y)
SRC (Y419)
SRMS (Y)
SYK (Y)
TEC (Y)
TIE1 (Y)
TIE2 (Y)
TNK1 (Y)
TRKB (Y)
TXK (Y)
TYK2 (Y)
TYK2 (Y1054)
TYRO10 (Y)
VEGFR2 (Y)
VEGFR2 (Y996)
VEGFR3 (Y)
ZAP70 (Y)
ZAP70 (Y493)

CATALOG NUMBERING:
PEL- : sandwich ELISA
CBEL- : cell-based ELISA
-T: total and phospho

Phosphorylation Arrays

Browse arrays:

how it works

1 ANTIBODY ARRAY SUPPORT
Nitrocellulose Membrane

2 SAMPLE INCUBATION

3 BIOTINYLATED ANTIBODY COCKTAIL INCUBATION

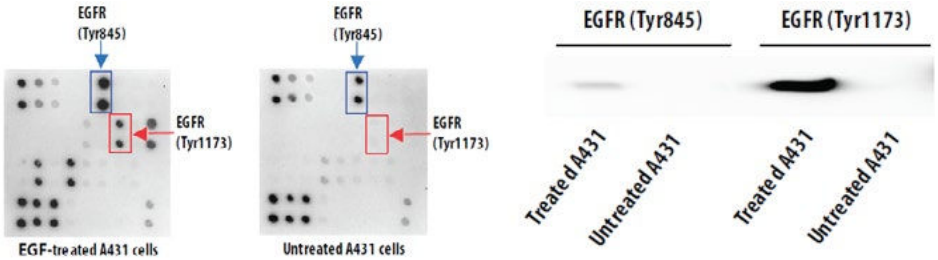
4 INCUBATION WITH STREPTAVIDIN CONJUGATE

5 CHEMILUMINESCENT ANALYSES
Western blot imager

RayBio® Phosphorylation Arrays are specifically designed to identify the relative levels of phosphorylated proteins across multiple proteins simultaneously. Our arrays utilize the sandwich immunoassay principle, wherein a panel of capture phospho-antibodies is spotted onto a solid support. Signal readouts allow densitometry data collection and calculation of fold changes for each detected protein.

HUMAN EGFR PATHWAY PHOSPHORYLATION ARRAY

A431 cells from a human epidermal carcinoma cell line were serum-starved overnight, then stimulated with 100 ng/mL EGF for 20 min at 37ºC. Control cells were not incubated with EGF. EGFR phosphorylation was analyzed with RayBio EGFR Phosphorylation Arrays (left) and Western blots using phospho-EGFR (Tyr845 or Tyr1173) antibodies (right). Array and Western blot signals were visualized by chemiluminescence.



FULL TESTING SERVICES
Send us your samples, we'll send you results

BIOSTATISTICS SERVICES
Get a deeper understanding of your data

ARRAYS BY RESEARCH AREA
Pick your pathway

Phosphorylation Arrays
by research area

Human/Mouse AKT Signaling Array
AKT (S473)
AMPKA (T172)
BAD (S112)
4E-BP1 (T36)
ERK1 (T202/204)
ERK2 (Y185/187)
GSK3A (S21)
GSK3B (S9)
mTOR (S2448)
P27 (T198)
P53 (S15)
P7056K (T421/S424)
PDK1 (S241)
PRAS40 (T246)
PTEN S380
RAF1 (S301)
RPS6 (S235/236)
RSK1 (S380)
RSK2 (S386)

Human Apoptosis Array
AKT (S473)
ATM (S1981)
BAD (S112)
Caspase-3 (Cleaved D175)
Caspase 7 (Cleaved D198)
CHK1 (S296)
CHK2 (T68)
eIF-2a (S52)
ERK1 (T202/204)
ERK2 (Y185/187)
HSP27 (S82)
IKBA (S32)
JNK (T183/185)
NFKBP65 (S536)
PARP1 (Cleaved D214/G215)
P27 (T198)
P53 (S15)
SMAD2 (S245/250/255)
TAK1 (S412)

Mouse Apoptosis Array
AKT (S473)
ATM (S1981)
BAD (S112)
Caspase-3 (Cleaved D175)
Caspase 7 (Cleaved D198)
CHK1 (S296)
eIF-2a (S52)
ERK1/2 (T202)
HSP27 (S82)
IKBA (S32)
JNK (T183)
NFKBP65 (S536)
P27 (T198)
P38 (T180/182)
P53 (S15)
SMAD2 (S245)
TAK1 (S412)

Human/Mouse MAPK Signaling Array
AKT (S473)
CREB (S133)
ERK1 (T202/204)
ERK2 (Y185/187)
GSK3A (S21)
GSK3B (S9)
HSP27 (S82)
JNK (T183)
MEK (S217/221)
MKK3 (S189)
MKK6 (S207)
MSK2 (S360)
mTOR (S2448)
P38 (T180/182)
P53 (S15)
P70S6K (T421/S424)
RSK1 (S380)
RSK2 (S386)

Human Tyrosine Kinase Receptors* Array
ABL1
ACK
ALK1
AXL
BLK
BMX
BTK
CSK
DTK
EGFR
EphA1
EphA2
EphA3
EphA4
EphA5
EphA6
EphA7
EphA8
EphB1
EphB2
EphB3
EphB4
EphB6
ERBB2
ERBB3
ERBB4
FAK
FER
FGFR1
FGFR2
FGFR2A
FGR
FRK
FYN
HCK
HGFR
IGF-1R
Insulin R (CD220)
ITK
JAK1
JAK2
JAK3
LCK
LTK
LYN
MATK
M-CSFR
MUSK
NGFR (TNFRSF16)
PDGFRA
PDGFRB
PYK2
RET
ROR1
ROR2
ROS
RYK
SCFR (CD117/c-KIT)
SRMS
SYK
TEC
TIE-1
TIE-2
TNK1
TRKB
TXK
TYK2
TYRO10 (DDR2/TKT)
VEGFR2
VEGFR3

Human TGF-β Array
ATF2 (T69/71)
C-FOS (T232)
C-JUN (S73)
SMAD1 (S463/465)
SMAD2 (S245/250/255)
SMAD4 (T277)
SMAD5 (S463/465)
TAK1 (S412)

Human JAK/STAT Signaling Array
EGFR (S1070)
JAK1 (Y1022)
JAK2 (Y1007/1008)
SHP-1 (S591)
SHP-2 (Y542)
SRC (Y419
STAT1 (S727)
STAT2 (Y689)
STAT3 (Y705)
STAT5 (Y694)
STAT6 (Y641)
TYK2 (Y1054)

Human NF-κB Signaling Array
ATM (S1981)
eIF-2a (S52)
HDAC2 (S394)
HDAC4 (S632)
IKB-alpha (S32)
MSK1 (S376)
NF-κB (S536)
STAT1 (S727)
TAK1 (S412)
TBK1 (S172)
ZAP70 (Y292)

Human Insulin Signaling Array
eIF-4E (S209)
FOXO-3 (S413)
IGF-1R (Y1165)
Insulin (Y1189)
IRS-1 (S318)
LKB1 (S428)
SCH (Y427)
SHIP1 (Y1020)
SHP2 (S542)

Human EGFR Array
EGFR (Y845/887/992/1045/1068/1086/1148,1173)
EGFR (S1046/1047/1070)
ERBB2 (Y877/1112/1221/1222/1248)
ERBB2 (T686)
ERBB2 (S1113)
ERBB3 (Y1289)
ERBB4 (Y1284)

** phosphorylated tyrosine*

activators & inhibitors

RayBiotech now offers over 5,000 natural and synthesized compounds with a variety of protein-modulating activities to aid your signaling pathway research. Our catalog of small molecules target proteins that are involved in:

- Apoptosis
- Angiogenesis
- Autophagy
- Cell cycle
- Cell metabolism
- Cytoskeleton
- DNA damage
- Endocrinology
- Epigenetics
- GPCR signaling
- Inflammation
- JAK/STAT pathway
- MAPK pathway
- Membrane transporters
- Neuronal signaling
- NF-κB pathway
- PI3K-AKT pathway
- and more!

auto-western service

RayBiotech's Auto-Western Service uses our state-of-the-art capillary immuno-blotting system with our vast phospho-antibody catalog*.

Service features

- Affordable
- Low sample volume (5 µL)
- High sensitivity (ng – pg)
- Our antibody or yours
- Full analysis report
- Absolute quantitation available

Electropherogram peaks are digitally rendered as a "virtual blot."

** includes ELISA and array phospho-antibodies*

other PTM ELISAs

Sandwich and cell-based ELISA kits are available for detection of other post-translational modifications such as acetylation, hydroxylation, and cleavage, involved in:

- Apoptosis
- Angiogenesis
- Cytoskeletal reorganization
- DNA damage
- mTOR signaling

RayBiotech
Empowering your proteomics

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