CELL BIOLABS, INC.
Creating Solutions for Life Science Research

Cell Singaling and Protein Biology

- ☑ Small GTPase / G-Protein
- ☑ Kinase Assays
- ☑ Reporter Assays, Cell Lines and Reagents
- ☑ Epitope Tags / Antibodies
- ☑ Protein Phosphorylation
- ☑ Protein Isolation
- ☑ Protein Detection / Uuantition
- ☑ Antibody Purification

Biogenuix®

Small GTPase / G-Protein Signaling

Small GTP-binding proteins (GTPases) regulate a variety of cell signaling pathways and are therefore involved in a wide range of cell functions, processes, and morphology. The most studied small GTPases include Ras, Rac, Rho and Cdc42. We offer a variety of tools to enable the study of these small GTPase family members:

- Small GTPase Activation Assays
- Small GTPase Activation ELISA Kits
- Small GTPase Assay Beads
- Active Rac-GEF Assay
- Small GTPase Expression Vectors
- Small GTPase Premade Adenoviruses
- Small GTPase Retroviral Constructs
- Small GTPase Recombinant Proteins

In addition, we offer sensitive assays to detect cyclic AMP and cyclic GMP, both of which are important regulators in the G-Protein signaling cascade.

Small GTPase Activation Assays

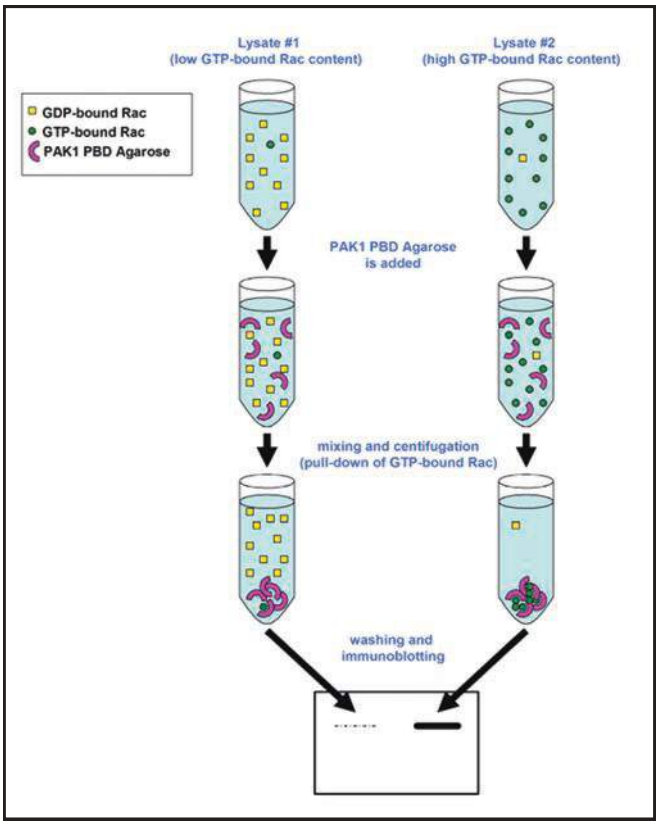
Our Small GTPase Activation Assays use visible agarose beads to selectively pull down the active form of the target of interest. The precipitated GTPase is then detected by Western blot using a target specific antibody included in the kit.

If you are studying more than one small GTPase target, consider one of our Small GTPase Activation Assay Combo Kits. These combo kits allow you to measure the following targets at a savings compared to buying separate kits for each target:

- Rac1 and Cdc42
- RhoA, Rac1 and Cdc42

Visible Agarose Beads Provided in the Small GTPase Activation Assays. Beads are easy to visualize, making it easier to avoid potential loss during washes and aspirations.

- **Safe**: Non-radioactive assay format
- **Visual Check**: Agarose beads can be easily seen
- **Fast Results**: 1 hour plus electrophoresis/blotting



Small GTPase Activation Assay Principle.

Small GTPase Activation Assays (continued)

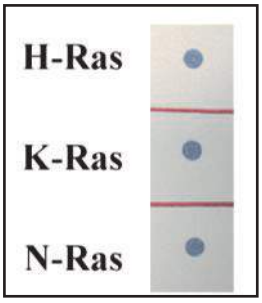
Recent Product Citations

1. Nikolos, F. et al. (2014). ERß regulates NSCLC phenotypes by controlling oncogenic RAS signaling. *Mol. Cancer Res.* **12**:843-854. (STA-400)
2. Krencik, R. et al. (2015). Dysregulation of astrocyte extracellular signaling in Costello syndrome. *Sci. Transl. Med*. 10.1126/scitranslmed.aaa5645. (STA-400-H)
3. Hernandez-Porras, I. et al. (2014). K-RasV14I recapitulates Noonan syndrome in mice. *PNAS USA* **111**:16395-16400. (STA-400-K)
4. Gayle, S. et al. (2015). piggyBac insertional mutagenesis screen identifies a role for nuclear RhoA in human ES cell differentiation. *Stem Cell Reports* 10.1016/j.stemcr.2015.03.001. (STA-401-1, STA-403-A)
5. Yanagashita, T. et al. (2014). Actin-binding protein, espin: a novel metastatic regulator for melanoma. *Mol. Cancer Res*. **12**:440-446. (STA-401-1, STA-403-A)
6. Baetta, R. et al. (2015). Atorvastatin reduces long pentraxin 3 expression in vascular cells by inhibiting protein geranylgernaylation. *Vascul. Pharmacol.* 10.1016/j.vph.2014.11.008. (STA-401-2)
7. E-Sayed, F.G. et al. (2014). P2Y2 nucleotide receptor activation enhances the aggregation and self-organization of dispersed salivary epithelial cells. *Am. J. Physiol. Cell Physiol.* **307**:C83-C96. (STA-402)
8. Choi, D.S. et al. (2015). SDF-1α stiffens myeloma bone marrow mesenchymal stromal cells through the activation of RhoA-ROCK-Myosin II. *Int. J. Cancer* **136**:E219-E229. (STA-403-A)
9. Ichijo, S. et al. (2014). Activation of the RhoB signaling pathway by thyroid hormone receptor ß in thyroid cancer cells. *PLoS One* **9**:e116252. (STA-403-B)
10. Tanaka, U. et al. (2015). Sprouty2 inhibition promotes proliferation and migration of periodontal ligament cells. *Oral Dis.* 10.1111/odi.12369. (STA-404)
11. Mori, H. et al. (2015). Smad3 deficiency leads to mandibular condyle degradation via the sphingosine 1-phosphate (S1P)/S1P 3 signaling axis. *Am. J. Pathol.* 10.1016/j.ajpath.2015.06.015. (STA-405)
12. Ishiguro, K. et al. (2014). Suppressive action of acetate on interleukin-8 production via tubulin-α acetylation. *Immunol. Cell Biol.* **92**:624-630. (STA-406-1)
13. Monteiro, A.C. et al. (2014). Trans-dimerization of JAM-A regulates Rap2 and is mediated by a domain that is distinct from the cis-dimerization interface. *Mol. Biol. Cell* **25**:1574-1585. (STA-406-2)
14. Loskutov, Y.V. et al. (2015). NEDD9/Arf6-dependent endocytic trafficking of matrix metalloproteinase 14: a novel mechanism for blocking mesenchymal cell invasion and metastasis of breast cancer. *Oncogene* 10.1038/onc.2014.297. (STA-407-1)
15. Cheung, H.N. et al. (2014). FE65 interacts with ADP-ribosylation factor 6 to promote neurite outgrowth. *FASEB J.* **28**:337-349. (STA-407-6)
16. Brasseur, A. et al. (2014). The bi-lobe-associated LRRP1 regulates Ran activity in *Trypanosoma brucei*. *J. Cell Sci*. **127**:4846-4856. (STA-409)

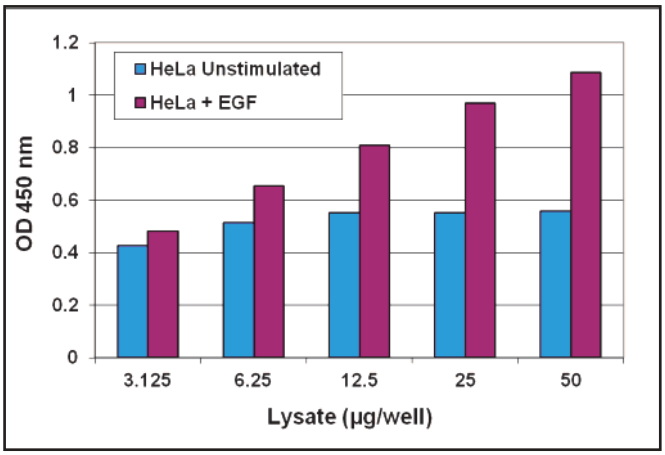
Product Name	Detection	Size	Catalog Number
Arf1 Activation Assay	Immunoblot/ECL	20 Assays	STA-407-1
Arf6 Activation Assay	Immunoblot/ECL	20 Assays	STA-407-6
Cdc42 Activation Assay	Immunoblot/ECL	20 Assays	STA-402
Rac1 Activation Assay	Immunoblot/ECL	20 Assays	STA-401-1
Rac2 Activation Assay	Immunoblot/ECL	20 Assays	STA-401-2
Ral Activation Assay	Immunoblot/ECL	20 Assays	STA-408
Ran Activation Assay	Immunoblot/ECL	20 Assays	STA-409
Rap1 Activation Assay	Immunoblot/ECL	20 Assays	STA-406-1
Rap2 Activation Assay	Immunoblot/ECL	20 Assays	STA-406-2
Pan-Ras Activation Assay	Immunoblot/ECL	20 Assays	STA-400
H-Ras Activation Assay	Immunoblot/ECL	20 Assays	STA-400-H
K-Ras Activation Assay	Immunoblot/ECL	20 Assays	STA-400-K
N-Ras Activation Assay	Immunoblot/ECL	20 Assays	STA-400-N
RhoA Activation Assay	Immunoblot/ECL	20 Assays	STA-403-A
RhoB Activation Assay	Immunoblot/ECL	20 Assays	STA-403-B
RhoC Activation Assay	Immunoblot/ECL	20 Assays	STA-403-C
Rac1/Cdc42 Activation Assay Combo Kit	Immunoblot/ECL	20 Assays/Target	STA-404
RhoA/Rac1/Cdc42 Activation Assay Combo Kit	Immunoblot/ECL	10 Assays/Target	STA-405

96-Well Ras Activation ELISA Kits

Our 96-Well Ras Activation Assays use the Raf1 Rho binding domain (Raf1 RBD) to selectively pull down the active form of Ras from purified or endogenous samples. The captured GTP-Ras is then detected by a pan-Ras antibody and HRP-conjugated secondary antibody. Detection is by either colorimetric or chemiluminescent plate reader.



Pan-Ras Antibody Specificity. Anti-pan-Ras antibody reactivity with H-Ras, K-Ras and N-Ras human isoforms by dot blot.



EGF Stimulation and Active Ras Detection with the 96-Well Ras Activation ELISA Kit. HeLa cells were serum starved for 18 hours before EGF stimulation of 50 ng/mL for 2 minutes. Lysates were then prepared according to the assay protocol.

Product Name	Detection	Size	Catalog Number
96-Well Ras Activation ELISA Kit	Colorimetric	96 Assays	STA-440
	Chemiluminescent	96 Assays	STA-441

Active Rac-GEF Assay Kit (Tiam1)

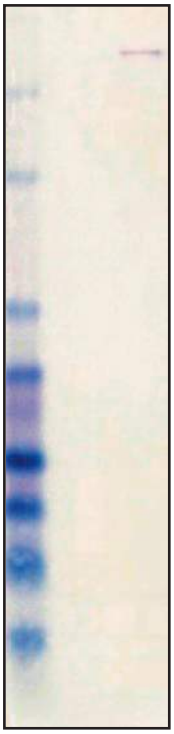
Guanine nucleotide exchange factors (GEFs) activate small GTPases by catalyzing the exchange of GDP for GTP.

Our Active Rac-GEF Assay Kit (Tiam1) uses the agarose bead technology of our Small GTPase Activation Assays (previous page). Agarose beads pull down the active form of Rac-GEFs from endogenous lysates or purified samples. The specific GEF known as Tiam1 is then specifically detected with a polyclonal antibody.

Recent Product Citations

1. Wang, P. et al. (2015). Selective killing of K-ras-transformed pancreatic cancer cells by targeting NAD (P) H oxidase. *Chin. J. Cancer* **34**:1-11.
2. Oubaha, M. et al. (2012). Formation of a PKC/ß-catenin complex in endothelial cells promotes angiopoietin-1-induced collective directional migration and angiogenic sprouting. *Blood* **120**:3371-3381.

Tiam1 Activation Assay. Left: 293 cells were transfected with active Tiam1. Active Tiam1 in lysate was pulled down with Rac1 G15A agarose beads. **Right**: Active Tiam-1 in 2 mg of MDA-231 cell lysate was pulled down with Rac1 G15A agarose beads and probed with anti-Tiam1 antibody.



Product Name	Detection	Size	Catalog Number
Active Rac-GEF Assay Kit (Tiam1)	Immunoblot/ECL	20 Assays	STA-422

Small GTPase Agarose Assay Beads

Our agarose beads are useful for selectively pulling down only the active form of small GTPases. The beads are colored for easily visualization. These are the same beads used in our Small GTPase Activation Assays (p. 104-105).

Visible Agarose Beads. Beads are easy to visualize, making it easier to avoid potential loss during washes and aspirations.

Recent Product Citations

1. Moniz, S. et al. (2007). Protein kinase WNK2 inhibits cell proliferation by negatively modulating the activation of MEK1/ERK1/2. *Oncogene* **26(41)**:6071-6081. (STA-410)
2. Morrison, A.R. et al. (2014). Chemokine-coupled ß2 integrin-induced macrophage Rac2-Myosin IIA interaction regulates VEGF-A mRNA stability and arteriogenesis. *J. Exp. Med.* **211**:1957-1968. (STA-411)
3. Alam, J. et al. (2014). N-acetylcysteine and the human serum components that inhibit bacterial invasion of gingival epithelial cells prevent experimental periodontitis in mice. *J. Periodontal Implant Sci*. **44**:266-273. (STA-411, STA-412)
4. Sabbatini, M. E. et al. (2010). CCK activates RhoA and Rac1 differentially through G-alpha-13 and G-alpha-q in mouse pancreatic acini. *Am. J. Physiol. Cell Physiol*. **298**:C592-C605. (STA -411, STA-412)
5. Levy-Adam, F. et al. (2008). Heparanase facilitates cell adhesion and spreading by clustering of cell surface heparan sulfate proteoglycans. *PLoS ONE* **3(6)**:e2319. (STA-411, STA-412)
6. Sabbatini, M. et al. (2008). Rap1 activation plays a regulatory role in pancreatic amylase secretion. *J. Biol. Chem.* **283**:23884-23894. (STA-412)
7. Gibson, C.C. et al. (2015). Dietary vitamin D and its metabolites non-genomically stabilize the endothelium. *PLoS One* **10**:e0140370. (STA-419)

Product Name	Target	Size	Catalog Number
GGA3 PBD Agarose Beads	Arf	400 µg	STA-419
PAK1 PBD Agarose Beads	Cdc42, Rac	400 µg	STA-411
Raf1 RBD Agarose Beads	Ras	400 µg	STA-410
RalBP1 PBD Agarose Beads	Ral	400 µg	STA-420
RalGDS RBD Agarose Beads	Rap	400 µg	STA-418
RanBP1 Agarose Beads	Ran	400 µg	STA-421
Rhotekin RBD Agarose Beads	Rho	400 µg	STA-412

GEF Agarose Assay Beads

Our GEF agarose beads are useful for selectively pulling down only the active form of guanine nucleotide exchange factors (GEF). The beads are colored for easily visualization.

Recent Product Citations

1. Ngok, S. et al. (2013). Phosphorylation-mediated 14-3-3 protein binding regulates the function of the Rho-specific guanine nucleotide exchange factor (RhoGEF) Syx. *J. Biol. Chem*. **288**:6640-6650. (STA-431)
2. Wu, C.Y. et al. (2014). PI3K regulation of RAC1 is required for KRAS-induced pancreatic tumorigenesis in mice. *Gasteroenterology* **147**:1405-1416. (STA-432)
3. Colacios, C. et al. (2011). The p.Arg63Trp polymorphism controls Vav1 functions and Fox3p regulatory T cell development. *J. Exp. Med.* **208**:2183-2191. (STA-432)

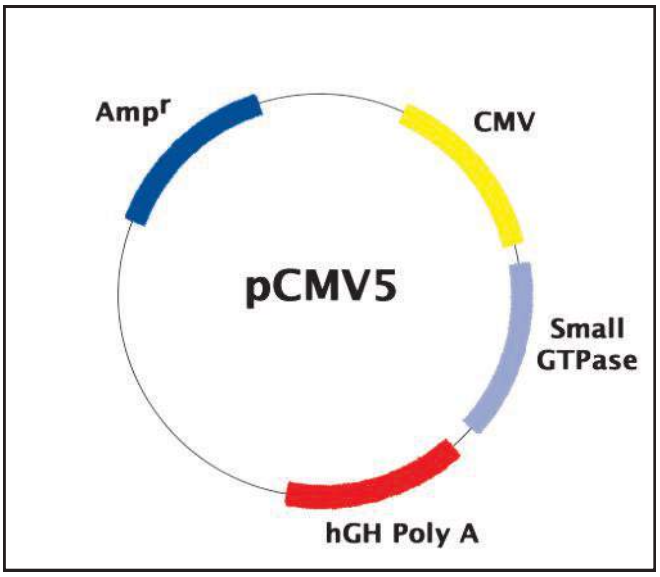
Product Name	Target	Size	Catalog Number
Cdc42 G15A Agarose Beads	Cdc42-GEF	800 µg	STA-433
Rac1 G15A Agarose Beads	Rac1-GEF	800 µg	STA-432
RhoA G17A Agarose Beads	RhoA-GEF	400 µg	STA-431

Small GTPase Expression Vector Sets

Our Small GTPase Expression Vectors are ideal tools for the study of the most commonly researched small GTPase targets. Each set contains 3 mammalian expression vectors:

- Wild type
- Dominant negative
- Constitutively active

Vectors are available with or without a GFP reporter gene. All vectors are supplied as bacterial glycerol stocks.



Recent Product Citation
Keats, E.C. et al. (2014). Switch from canonical to noncanonical Wnt signaling mediates high glucose-induced adipogenesis. *Stem Cells* **32**:1649-1660. (STA-450, STA-452)

Product Name	Vectors	Size	Catalog Number
Cdc42 Expression Vector Set	Wild Type, T17N (Dom. Neg.), Q61L (Active)	3 x 100 µL	STA-455
GFP-Cdc42 Expression Vector Set	Wild Type, T17N (Dom. Neg.), Q61L (Active)	3 x 100 µL	STA-451
Rac1 Expression Vector Set	Wild Type, T17N (Dom. Neg.), G12V (Active)	3 x 100 µL	STA-454
GFP-Rac1 Expression Vector Set	Wild Type, T17N (Dom. Neg.), Q61L (Active)	3 x 100 µL	STA-450
H-Ras Expression Vector Set	Wild Type, T17N (Dom. Neg.), G12V (Active)	3 x 100 µL	STA-457
RhoA Expression Vector Set	Wild Type, T19N (Dom. Neg.), G14V (Active)	3 x 100 µL	STA-456
GFP-RhoA Expression Vector Set	Wild Type, T19N (Dom. Neg.), Q63L (Active)	3 x 100 µL	STA-452

Active Small GTPase Expression Vector Sets

Our Active Small GTPase Expression Vectors are similar to the expression vectors above, except that they are provided as sets of 3 different active mutants for a single small GTPase target. All vectors are supplied as bacterial glycerol stocks.

Product Name	Vectors	Size	Catalog Number
Active Rac1 Expression Vector Set	Q61L, Q61L/F37A, Q61L/Y40C	3 x 100 µL	STA-458
Active H-Ras Expression Vector Set	V12, V12/S35, V12/C40	3 x 100 µL	STA-459

Exoenzyme C3 (Rho Inhibitor) Expression Vector

This vector is supplied as bacterial glycerol stock.

Product Name	Size	Catalog Number
Exoenzyme C3 Expression Vector	3 x 100 µL	STA-460

Gene-Specific Recombinant Retroviral Vectors

Our recombinant retroviral plasmids contain a specific gene cloned into a pBABE vector backbone. Each vector is supplied as bacterial glycerol stock.

Recent Product Citation

Zhao, B. et al. (2012). TNF-induced osteoclastogenesis and inflammatory bone resorption are inhibited by transcription factor RBP-J. *J. Exp. Med.* **209**:319-334. (RTV-101)

Target Name	Vector Backbone	Catalog Number
Cdc42 L61	pBABEhygro	RTV-203
myr-Rac1	pBABEpuro	RTV-201
myr-Rac1 V12	pBABEpuro	RTV-206
Rac1 V12	pBABEhygro	RTV-202
Rac3 V12	pBABEhygro	RTV-205
K-Ras	pBABEpuro	RTV-220
K-Ras Q61	pWZLhygro	RTV-221
N-Ras K61	pBABEpuro	RTV-222
Ras V12	pBABEpuro	RTV-101
Ras V12C40	pBABEpuro	RTV-104
Ras V12G37	pBABEpuro	RTV-103
Ras V12S35	pBABEpuro	RTV-102
RhoA L63	pBABEhygro	RTV-204

Small GTPase Recombinant Adenoviruses

Recent Product Citations

1. Aissaoui, H. et al. (2015). MDA-9/syntenin is essential for factor VIIa-induced signaling, migration, and metastasis in melanoma cells. *J. Biol. Chem*. **290**:3333-3348. (ADV-149, ADV-152)
2. Mao, Y. et al. (2012). Essential diurnal Rac1 activation during retinal phagocytosis requires αvß5 integrin but not tyrosine kinases focal adhesion kinase or Mer tyrosine kinase. *Mol. Cell Biol*. **23**:1104-1114. (ADV-150)
3. Yu, W.-M. et al. (2009). Laminin is required for Schwann cell morphogenesis. *J. Cell Sci.* **122**:929-936. (ADV-150, ADV-153, ADV-154)
4. Salvati, E. et al. (2014). Evidence for G-quadruplex in the promoter of VEGFR-2 and its targeting to inhibit tumor angiogenesis. *Nucleic Acids Res.* **42**:2945-2957. (ADV-151, ADV-157)
5. Cheng, Z.-J. et al. (2010). Co-regulation of caveolar and Cdc42 -dependent fluid phase endocytosis by phosphocaveolin-1. *J. Biol. Chem*. **285**:15119-15125. (ADV-153)
6. Neal M. et al. (2013). A critical role for TLR4 induction of autophagy in the regulation of enterocyte migration and the pathogenesis of necrotizing enterocolitis. *J. Immunol.* **190**:3541-3551. (ADV-156, ADV-157)

Target Name	Catalog Number
Cdc42	ADV-152
Cdc42 L61 (Constitutively Active)	ADV-154
Cdc42 N17 (Dominant Negative)	ADV-153
Rac1	ADV-149
Rac1 L61 (Constitutively Active)	ADV-151
Rac1 N17 (Dominant Negative)	ADV-150
Ras N17 (Dominant Negative)	ADV-145
Ras V12 (Constitutively Active)	ADV-146
Rho L63 (Constitutively Active)	ADV-157
Rho N19 (Dominant Negative)	ADV-156

Small GTPase Recombinant Human Proteins

Protein Name	Tag / Location	Size	Catalog Number
Rac1	6xHis / N-term	50 µg	STA-728
Ral A	6xHis / N-term	25 µg	STA-732
Ral B	6xHis / N-term	10 µg	STA-733
Rap1a	6xHis / N-term	10 µg	STA-735
H-Ras	6xHis / C-term	25 µg	STA-747
K-Ras	6xHis / N-term	25 µg	STA-748
N-Ras	None	10 µg	STA-749
RhoA	6xHis / N-term	20 µg	STA-740

Recombinant GRP-PH Domain

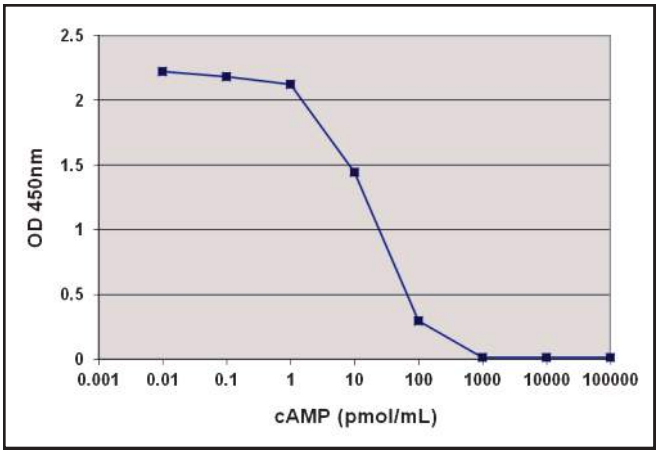
Product Name	Size	Catalog Number
Recombinant GRP-PH Domain	100 µg	STA-200
	1 mg	STA-200-1MG

Cyclic AMP and GMP ELISA Kits

Cyclic AMP and cyclic GMP are important regulatory molecules in the GPCR signaling cascade. Our cAMP and cGMP ELISA Kits provide a highly sensitive method to measure low levels of cAMP or cGMP in a variety of sample types.

cAMP and cGMP may be tested under either acetylated or non-acetylated conditions. Kits are provided with reagents for acetylation, which may help increase sensitivity when detecting low levels of either analyte.

- **Sensitive**: Detect as little as 1 pmol/mL
- **Versatile**: Suitable for use with cell and tissue lysates, urine, plasma, or culture medium
- **Convenient**: Strip-well plate format with either colorimetric or chemiluminescent detection



Standard Curve Created with the cAMP ELISA Kit, Colorimetric Format.

Recent Product Citations

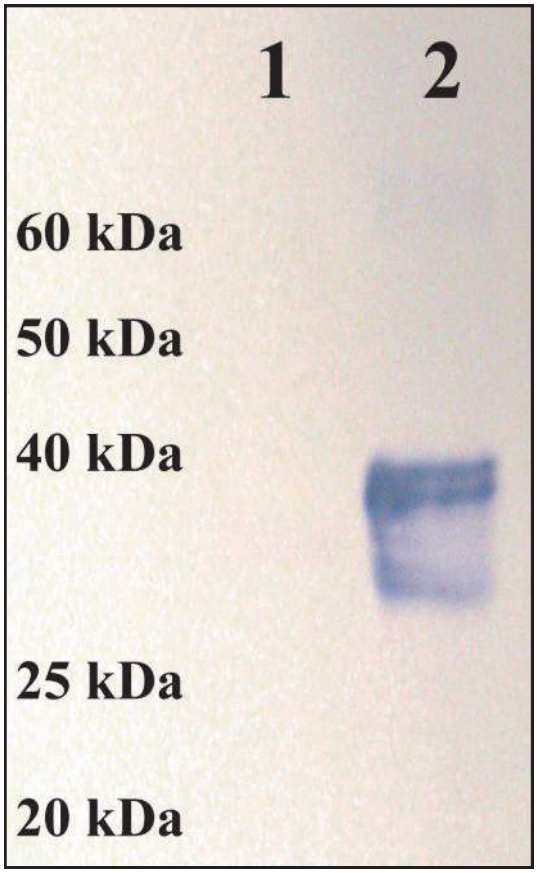
1. He, T. et al. (2015). Role of prostacyclin signaling in endothelial production of soluble amyloid precursor protein-α in cerebral microvessels. *J. Cereb. Blood Flow Metab.* 10.1177/0271678X15618977. (STA-500)
2. Omosun, Y. et al. (2015). IL-10 modulates antigen presentation by dendritic cells through regulation of NLRP3 inflammasome assembly during Chlamydia infection. *Infect. Immun.* 10.1128/IAI.00993-15. (STA-500)
3. Rose, S.J. et al. (2015). A new knock-in mouse model of l-DOPA responsive dystonia. *Brain* 10.1093/brain/awv212. (STA-500)
4. Liu, X. et al. (2015). ß-Arrestin-biased signaling mediates memory reconsolidation. *PNAS USA* 10.1073/pnas.1421758112. (STA-500)
5. Cortes, V. et al. (2015). Metabolic effects of cholecystectomy: gallbladder ablation increases basal metabolic rate through G-protein coupled bile acid receptor Gpbar1-dependent mechanisms in mice. *PLoS One* **10**:e0118478. (STA-500)
6. Terunuma, M. et al. (2015). Purinergic receptor activation facilitates astrocytic GABA B receptor calcium signalling. *Neuropharmacology* **88**:74-81. (STA-500)
7. Jones, A. et al. (2014). Human macrophage SCN5A activates an innate immune signaling pathway for antiviral host defense. *J. Biol. Chem.* **289**:35326-35340. (STA-500)
8. Smith, E.P. et al. (2014). The role of ß cell glucagon-like peptide -1 signaling in glucose regulation and response to diabetes drugs. *Cell Metab*. **19**:1050-1057. (STA-500)
9. Tian, L. et al. (2014). TSH stimulates the proliferation of vascular smooth muscle cells. *Endocrine* **46**:651-658. (STA-500)
10. Chen, X. et al. (2014). Identification of serine 348 on the apelin receptor as a novel regulatory phosphorylation site in apelin-13-induced G protein-independent biased signaling. *J. Biol. Chem.* **289**:31173-31187. (STA-500)
11. Liu, L. et al. (2014). PKCßII acts downstream of chemoattractant receptors and mTORC2 to regulate cAMP production and myosin II activity in neutrophils. *Mol. Biol. Cell* **25**:1446-1457. (STA-501)
12. Santhanam, A.V. et al. (2014). Erythropoietin increases bioavailability of tetrahydrobiopterin and protects cerebral microvasculature against oxidative stress induced by eNOS uncoupling. *J. Neurochem.* **131**:521-529. (STA-505)
13. D'Uscio, L.V. et al. (2014). Mechanisms of vascular dysfunction in mice with endothelium-specific deletion of the PPAR-delta gene. *Am. J. Physiol. Hear Circ. Physiol.* **306**:H1001-H1010. (STA-505)
14. Yuan, G. et al. (2015). Protein kinase G-regulated production of H2S governs oxygen sensing. *Sci. Signal* 10.1126/scisignal.2005846. (STA-506)

Product Name	Detection	Size	Catalog Number
cAMP ELISA Kit	Colorimetric	96 Assays	STA-500
		5 x 96 Assays	STA-500-5
	Chemiluminescent	96 Assays	STA-501
		5 x 96 Assays	STA-501-5
cGMP ELISA Kit	Colorimetric	96 Assays	STA-505
		5 x 96 Assays	STA-505-5
	Chemiluminescent	96 Assays	STA-506
		5 x 96 Assays	STA-506-5

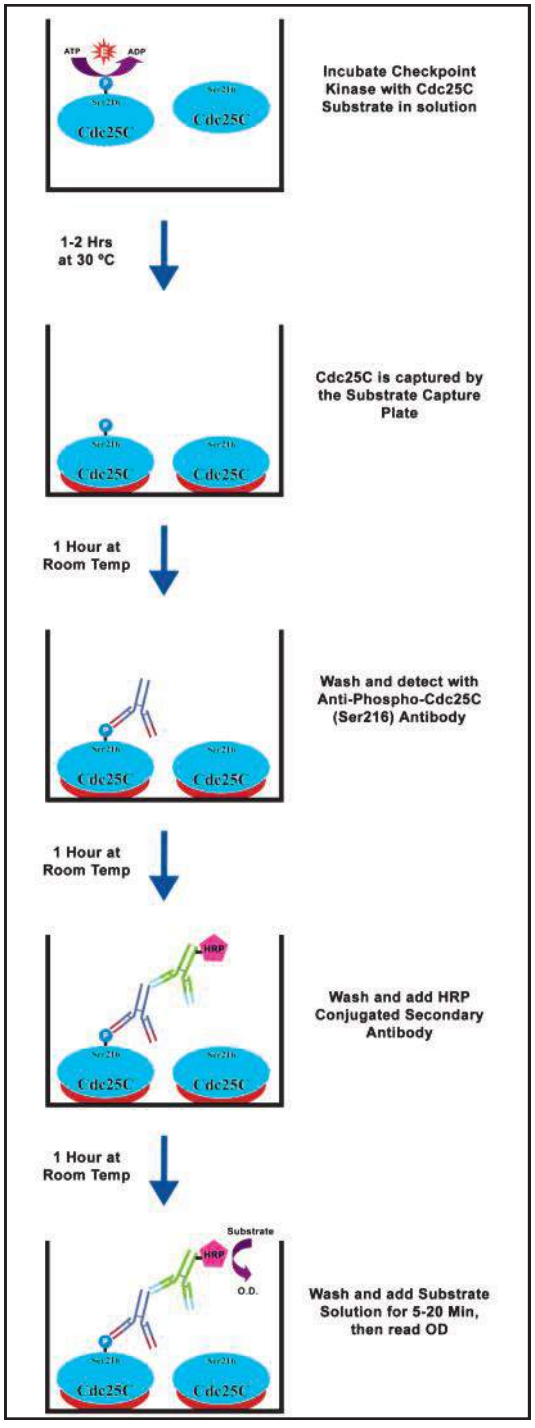
Checkpoint Kinase Activity Assays

Checkpoint kinases, including CHK1 and CHK2, can be activated in response to DNA damage prior to mitosis. These kinases phosphorylate Cdc25C, a protein phosphatase, at Ser-216. This phosphorylation ultimately leads to cell cycle arrest, preventing mitosis and avoiding the passage of DNA damage to daughter cells.

Our Checkpoint Kinase Activity Assays allow you to conveniently measure the activity of CHK1 and CHK2. The assays use recombinant Cdc25C as a checkpoint kinase substrate. Phosphorylated Cdc25C (Ser216) is detected using a phospho-specific antibody. Checkpoint Kinase Activitiy Assays are available in two formats: a Western blot assay and a 96-well plate-based activity assay.



CHK1 Activity Using the Checkpoint Kinase Activity Immunoblot Kit. **Lane 1**: Negative Control; **Lane 2**: 10 ng of active CHK1.



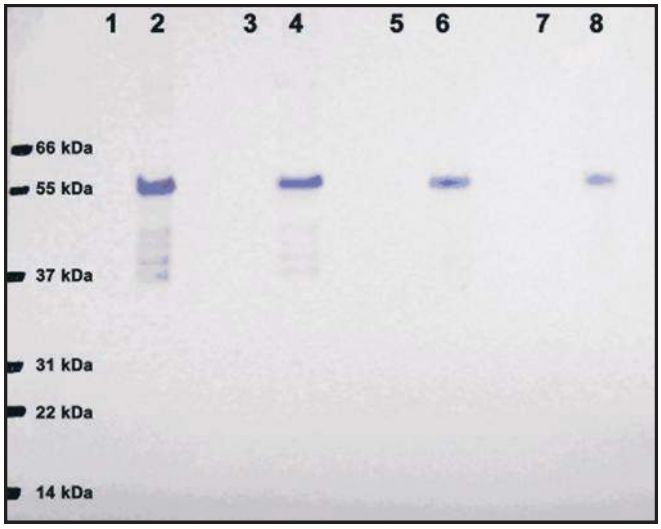
96-Well Checkpoint Kinase Activity Assay Principle.

Product Name	Detection	Size	Catalog Number
Checkpoint Kinase Activity Immunoblot Kit	Immunoblot	20 Assays	STA-413
96-Well Checkpoint Kinase Activity Assay Kit	Colorimetric	96 Assays	STA-414
		5 x 96 Assays	STA-414-5

Rho Kinase (ROCK) Activity Assays

Rho Kinase (ROCK) is a serine/threonine kinase which is a target of Rho. ROCK mediates Rho signaling and reorganizes the actin cytoskeleton via the phosphorylation of several substrates that contribute to contractility and the assembly of actin filaments.

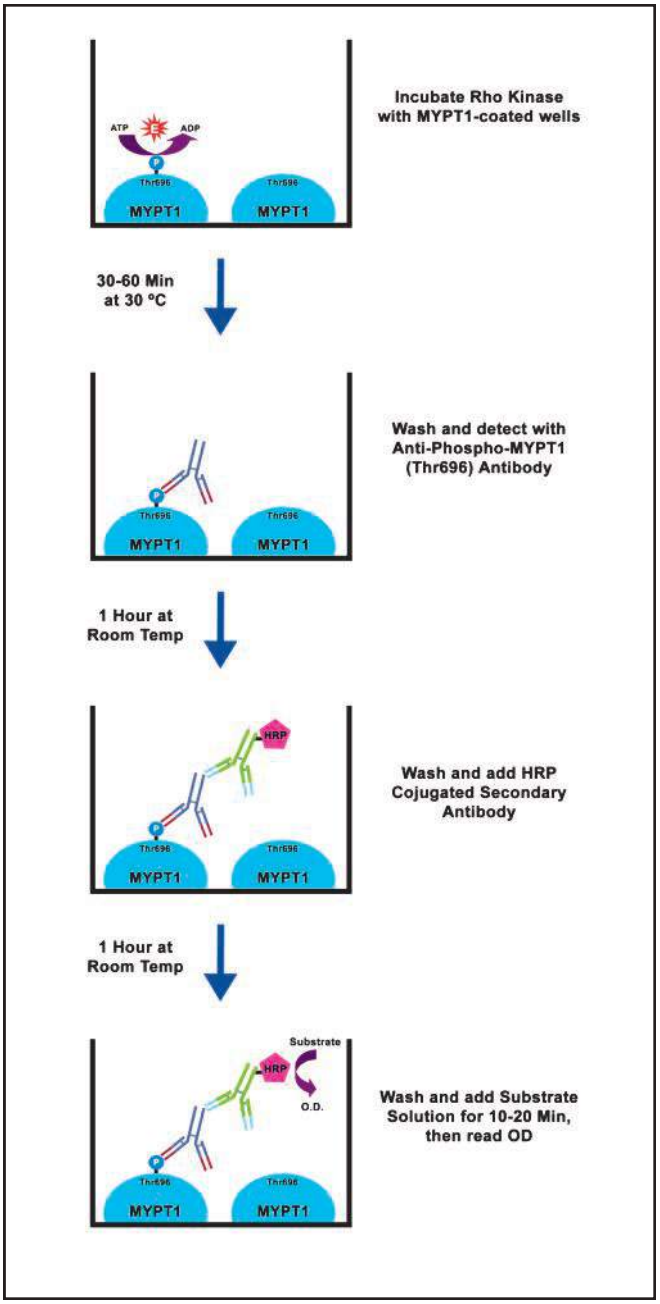
Our ROCK Activity Assays provide a non-radioactive format to measure the level of active ROCK in cell or tissue lysates. The immunoblot kit provides a convenient format for measuring ROCK activity in a few samples, while the 96-well Activity Assay contains a strip-well plate precoated with MYPT1 for higher throughput.



Results Using the ROCK Activity Immunoblot Kit. **Lanes 1, 3, 5, 7**: Without ROCK (negative control). **Lanes 2, 4, 6, 8**: With ROCK. **Lanes 1 & 2**: 200 ng MYPT1; **Lanes 3 & 4**: 100 ng; **Lanes 5 & 6**: 50 ng; **Lanes 7 & 8**: 25 ng. Phosphorylation of MYPT1 substrate was detected by anti-phospho-MYPT1 as described in the protocol.

Recent Product Citations

1. Su, C.C. et al. (2015). Phenotypes of trypsin– and collagenase-prepared bovine corneal endothelial cells in the presence of a selective Rho kinase inhibitor, Y-27632. *Mol. Vis*. **21**:633-643. (STA-415)
2. Sailland, J. et al. (2014). Estrogen-related receptor α decreases RHOA stability to induce orientated cell migration. *PNAS USA* **111**:15108-15113. (STA-415)
3. Liu, Y. et al. (2015). ROCK inhibition impedes macrophage polarity and functions. *Cell Immunol.* 10.1016/j.cellimm.2015.12.005. (STA -416)
4. Li, H. et al. (2015). KAP regulates ROCK2 and Cdk2 in an RNA-activated glioblastoma invasion pathway. *Oncogene* **34**:1432-1441. (STA-416)
5. Munoz, A. et al. (2015). Aging-related increase in Rho kinase activity in the nigral region is counteracted by physical exercise. *J. Gerontol. A Biol. Sci. Med. Sci.* 10.1093/gerona/glv179. (STA-416)



96-Well ROCK Activity Assay Principle.

Product Name	Detection	Size	Catalog Number
ROCK Activity Immunoblot Kit	Immunoblot	20 Assays	STA-415
96-Well ROCK Activity Assay	Colorimetric	96 Assays	STA-416
		5 x 96 Assays	STA-416-5

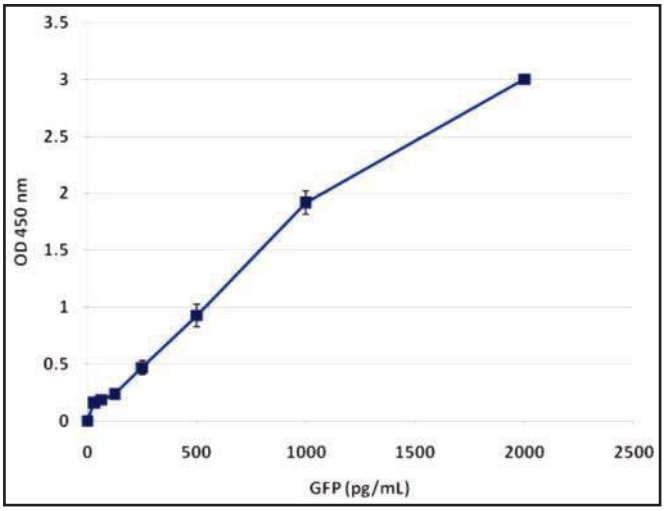
Reporter Assays, Cell Lines and Reagents

We offer a variety of tools for various reporter molecules:

- Reporter Assays
- Reporter Stable Cell Lines
- Recombinant Fluorescent Proteins
- Antibodies to Reporter Molecules
- Reporter Viral Vectors

GFP ELISA Kit

Most imaging studies of rGFP are qualitative, and quantitation by FACS is time consuming and expensive. Our GFP ELISA kit uses a standard microplate reader to quantify GFP levels with extremely high sensitivity. This kit will detect GFP form *Aequorea victoria* as well as its variants.



Standard Curve Generated with the GFP ELISA Kit.

- **Sensitive**: Detection limit of 30 pg/mL
- **Versatile**: Quantify GFP and its variants: BFP, CFP or YFP
- **Easy Quantitation:** Measure GFP levels in a standard microplate reader

Recent Product Citations

1. Borjan, B. et al. (2015). The Aplidin analogs PM01215 and PM02781 inhibit angiogenesis in vitro and in vivo. *BMC Cancer* **15**:738.
2. Gee, H.Y. et al. (2015). KANK deficiency leads to podocyte dysfunction and nephrotic syndrome. *J. Clin. Invest.* 10.1172/JCI79504.
3. Zhang, Y. et al. (2015). Characterization of the promoter of Grapevine vein clearing virus. *J. Gen. Virol*. **96**:165-169.
4. Anyaegbu, C.C. et al. (2014). Chemotherapy enhances cross-presentation of nuclear tumor antigens. *PLoS One* **9**:e107894.
5. Sendra, L. et al. (2014). Low RNA translation activity limits the efficacy of hydrodynamic gene transfer to pig liver in vivo. *J. Gene Med.* **16**:179-192.
6. Mango, R. et al. (2014). C-C chemokine receptor 5 on pulmonary mesenchymal cells promotes experimental metastasis via the induction of erythroid differentiation regulator 1. *Mol. Cancer Res.* **12**:274-282.
7. Mitchell, A. et al. (2014). Promyelocytic leukemia protein is a cell-intrinsic factor inhibiting parvovirus DNA replication. *J. Virol.* **88**:925-936.
8. Huhtala, T. et al. (2014). Biodistribution and antitumor effect of Cetuximab-targeted lentivirus. *Nucl. Med. Biol*. **41**:77-83.

Product Name	Detection	Size	Catalog Number
GFP ELISA Kit	Colorimetric	96 Assays	AKR-121
		5 x 96 Assays	AKR-121-5

GFP Quantitation Kit

When direct quantitation of GFP fluorescence levels is desired, our GFP Quantitation Kit provides a superior method over time-consuming flow cytometry and semi-quantitative imaging techniques. This kit measures fluorescence levels directly in a plate-based fluorometer.

Recent Product Citations

1. Shim, M.S. et al. (2014). Stimuli-responsive siRNA carriers for efficient gene silencing in tumors via systemic delivery. *Biomater. Sci.* **2**:35-40.
2. Pfeiffer, B. et al. (2012). Using translational enhancers to increase transgene expression in *Drosophila*. *PNAS* **109**:6626-6631.

Product Name	Detection	Size	Catalog Number
GFP Quantitation Kit	Fluorometric	100 Assays	AKR-120

RFP ELISA Kit

Our RFP ELISA Kit provides a convenient, sensitive alternative to imaging systems and time-consuming FACS quantitation. The assay quantifies a wide variety of red fluorescent protein variants including DsRed, TagRFP, TurboRFP, tdTomato, mCherry, mKate, mRuby, mBanana, mOrange, mPlum, and mStrawberry. Detect as little as 150pg/mL.

Recent Product Citation

Fang, J. et al. (2015). COPII dependent ER export: a critical component of insulin biogenesis and beta cell ER homeostasis. *Mol. Endrocrinol.* 10.1210/me.2015-1012.

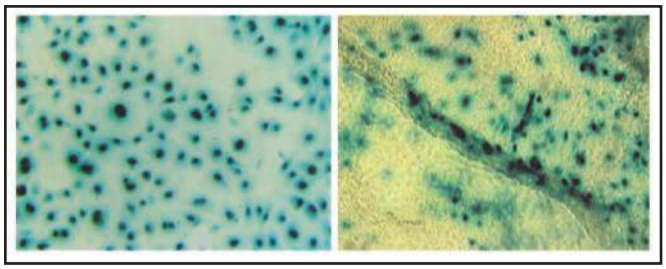
Product Name	Detection	Size	Catalog Number
RFP ELISA Kit	Colorimetric	96 Assays	AKR-122

ß-Galactosidase Staining Kit

LacZ is a commonly used reporter gene in transfection experiments because its gene product, ß-galactosidase, is extremely stable and resistant to proteolytic degradation, making it easy to assay. Our ß-Galactosidase Staining Kit provides an efficient, easy-to-use method to determine the transfection efficiency of the LacZ gene.

Recent Product Citations

1. Ge, X. et al. (2015). Mitochondrial catalase suppresses naturally occurring lung cancer in old mice. *Pathobiol. Aging Age Relat. Dis*. **5**:28776.
2. Xu, X. et al. (2015). Aberrant activation of TGF-ß in subchondral bone at the onset of rheumatoid arthritis joint destruction. *J. Bone Miner Res*. 10.1002/jbmr.2550.



X-Gal Staining of Infected HUVEC Cells and Chick CAM Tissue. **Left:** HUVEC cells were infected with purified Ad-ß-Gal at 50 MOI (multiplicity of infection). X-gal staining was performed after 48 hour infection period. **Right:** Purified Ad-ß-Gal was injected intravenously into a 10-day old chick embryo. After three days, X-gal staining was performed on the chick chorioallanoic membrane tissue.

Product Name	Size	Catalog Number
ß-Galactosidase Staining Kit	75 Assays	AKR-100

Reporter Stable Cell Lines

Each cell line expresses one or more reporter molecules.

Recent Product Citations

1. Irvine, S.A. et al. (2015). Printing cell-laden gelatin constructs by free-form fabrication and enzymatic protein crosslinking. *Biomed. Microdevices* **17**:1-8. (AKR-200)
2. Carey, S.P. et al. (2015). Comparative mechanisms of cancer cell migration through 3D matrix and physiological microtracks. *Am. J. Physiol. Cell Physiol.* **308**:C436-C447. (AKR-201)
3. Shopsowitz, K.E. et al. (2015). Periodic-shRNA molecules are capable of gene silencing, cytotoxicity and innate immune activation in cancer cells. *Nucleic Acids Res.* 10.1093/nar/gkv1488. (AKR-209, AKR-213)
4. Zhang, K. et al. (2014). Block-cell-printing for live single-cell printing. *PNAS* **111**:2948-2953. (AKR-211)

Recent Product Citations (cont'd)

5. Tassoni, A. et al. (2015). Molecular mechanisms mediating retinal reactive gliosis following bone marrow mesenchymal stem cell transplantation. *Stem Cells* 10.1002/stem.2095. (AKR-214)
6. Huang, F. and Mazin, A.V. (2014). A small molecule inhibitor of human RAD51 potentiates breast cancer cell killing by therapeutic agents in mouse xenografts. *PLoS One* **9**:e100993. (AKR-231)
7. Tung, C.H. et al. (2015). A quick responsive fluorogenic pH probe for ovarian tumor imaging. *Theranostics* **5**:1166-1174. (AKR-232)

Cell Line	Catalog Number
293/GFP	AKR-200
A549/GFP	AKR-209

Cell Line	Catalog Number
HeLa/GFP	AKR-213
MCF-7/GFP	AKR-211
MCF-7/Luc	AKR-234
MDA-MB-231/GFP	AKR-201
MDA-MB-231/Luc	AKR-231
MDA-MB-231/RFP	AKR-251
NIH3T3/GFP	AKR-214
OVCAR-5/RFP	AKR-254
SKOV-3/GFP-Luc	AKR-225
SKOV-3/Luc	AKR-232
T47D/GFP	AKR-208

Recombinant Fluorescent Proteins

Recombinant EGFP and RFP are provided at 1 mg/mL and includes a 6xHis-tag at the C-terminus.

Recent Product Citation
Caschera, F. and Noireaux, V. (2015). Preparation of amino acid mixtures for cell-free expression systems. *Biotechniques* **58**:40-43. (STA-201)

Product Name	Size	Catalog Number
Recombinant EGFP	100 µg	STA-201
	5 x 100 µg	STA-201-5
Recombinant RFP	100 µg	STA-202
	5 x 100 µg	STA-202-5

Monoclonal Antibodies to Reporter Molecules

Antibodies are provided at a concentration of 1 mg/mL. GFP antibody also recognizes EGFP, YFP, EYFP and CFP. RFP antibody recognizes Tag-RFP, Turbo-RFP, DeRed, mCherry and mOrange.

Antibodies are suitable for Western blot, Immunostaining, ELISA and Dot blot.

Recent Product Citation
Maamary, J. et al. (2012). Attenuated influenza virus constructs with enhanced hemagglutinin protein expression. *J. Virol.* **86**:5782-5790. (AKR-021)

Product Name	Size	Catalog Number
Anti-GFP clone GF28R	100 µg	AKR-020
Anti-RFP clone RF5R	100 µg	AKR-021

Gene-Specific Reporter Constructs

Each vector contains a specific gene of interest plus a GFP reporter gene.

Target Name	Catalog Number
AMPA1 / GFP	AKR-515
mCD98 / GFP	AKR-501
CREB / 3' GFP	AKR-504
CREB / 5' GFP	AKR-505
mCrx / GFP	AKR-506

Target Name	Catalog Number
CSF1 / GFP	AKR-500
G-alpha-q / GFP	AKR-507
GAPDH / GFP	AKR-514
Grin1 / GFP	AKR-517
LC3 / GFP	CBA-401

Target Name	Catalog Number
NMDAR1 / GFP	AKR-503
psd95 / GFP	AKR-518
Sec24b / GFP	AKR-512
Sh3glb2 / GFP	AKR-509
SynCAM / GFP	AKR-502

Reporter Viral Vectors

Reporter Adeno-Associated Viruses

Product Name	Catalog Number
AAV1-GFP Control Virus	AAV-301
AAV2-GFP Control Virus	AAV-302
AAV2-Luc Control Virus	AAV-320
AAV3-GFP Control Virus	AAV-303
AAV5-GFP Control Virus	AAV-305
AAV6-GFP Control Virus	AAV-306

Reporter Lentiviruses

Product Name	Catalog Number
GFP Lentivirus Control	LTV-300
RFP Lentivirus Control	LTV-301

Reporter Adenoviruses

Target Name	Catalog Number
β-Galactosidase	ADV-002
Firefly Luciferase	ADV-008
GFP	ADV-004

Reporter Retroviral Plasmids

Target Name	Vector Backbone	Catalog Number
GFP	pBABE	RTV-002
GFP	pMCs	RTV-051
GFP	pMX	RTV-050
GFP	pMYs	RTV-052
GFP-Puro	pMX	RTV-053

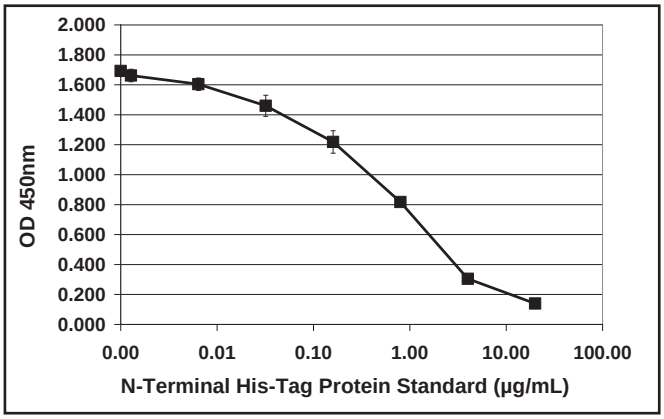
His-Tag Protein ELISA Kit

Our His-Tag Protein ELISA Kit allows you to detect and quantify His-tagged protein samples simply and reliably by comparing unknown samples with a recombinant standard. The kit is suitable for use with cell lysates and tissue homogenates.

- **Sensitive**: Detect as little as 1 ng/mL protein or 50 pM of 6xHis-tag residues
- **Versatile**: Use with proteins containing His-tag at either N- or C-terminus

Recent Product Citations

1. Rinaldo, A.R. et al. (2015). A grapevine anthocyanin acyltransferase, transcriptionally regulated by VvMYBA, can produce most acylated anthocyanins present in grape skins. *Plant Physiol.* **169**:1897-1916.
2. Akiyama, Y. et al. (2014). The identification of affinity peptide ligands specific to the variable region of human antibodies. *Biomed. Res*. **35**:105-116.
3. Dong, Y. et al. (2013). HMGB1 protein does not mediate the inflammatory response in spontaneous spinal cord regeneration: a hint for CNS regeneration. *J. Biol. Chem.* **288**:18204-18218.



Quantitation of N-Terminal His-Tag Protein.

Product Name	Detection	Size	Catalog Number
His-Tag Protein ELISA Kit	Colorimetric	96 Assays	AKR-130

Monoclonal Antibodies to Epitope Tags

Antibodies are provided at a concentration of 1 mg/mL. GAPDH, ß-Actin and ß-Tubulin are also available as loading controls. All are suitable for Western blot, Immunostaining, ELISA, Immunoprecipitation, and Dot blot.

Recent Product Citations

1. Sandner, F. et al. (2014). Expression of the oestrogen receptor GPER by testicular peritubular cells is linked to sexual maturation and male fertility. *Andrology* **2**:695-701. (AKR-001)
2. Orlandi, A. et al. (2015). ERCC1 induction after oxaliplatin exposure may depend on KRAS mutational status in colorectal cancer cell line: *In Vitro Veritas*. *J. Cancer* **6**:70-81. (AKR-002)
3. Satchidanandam, V. et al. (2014). The glycosylated Rv1860 protein of *Mycobacterium tuberculosis* inhibits dendritic cell mediated TH1 and TH17 polarization of T cells and abrogates protective immunity conferred by BCG. *PLoS Pathog*. **10**:e1004176. (AKR-003)
4. Wang, S. et al. (2014). Characterization of two UDP-Gal:GalNAc-diphosphate-lipid ß1,3-galactosyltransferases WbwC from *Escherichia coli* serotypes O104 and O5. *J. Bacteriol*. **196**:3122-3133. (AKR-003)
5. Starostova, M. et al. (2014). The oncoprotein v-Myb activates transcription of Gremlin 2 during in vitro differentiation of the chicken neural crest to melanoblasts. *Gene* **540**:122-129. (AKR-006)
6. Drake, L.L. et al. (2015). Functional characterization of Aquaporins and Aquaglyceroporins of the yellow fever mosquito, *Aedes aegypti*. *Sci. Rep*. **5**:7995. (AKR-007)

Product Name	Size	Catalog Number
Mouse Anti-FLAG Tag Monoclonal Antibody (clone FG4R)	100 µg	AKR-004
Mouse Anti-GST Tag Monoclonal Antibody (clone GST.B6)	100 µg	AKR-005
Mouse Anti-HA Tag Monoclonal Antibody (clone HA.C5)	100 µg	AKR-006
Mouse Anti-His Tag Monoclonal Antibody (clone HIS.H8)	100 µg	AKR-003
Mouse Anti-Myc Tag Monoclonal Antibody (clone Myc.A7)	100 µg	AKR-007
Mouse Anti-V5 Tag Monoclonal Antibody (clone E10)	100 µg	AKR-008
Mouse Anti-GAPDH Monoclonal Antibody	100 µg	AKR-001
Mouse Anti-ß-Actin Monoclonal Antibody	100 µg	AKR-002
Mouse Anti-ß-Tubulln Monoclonal Antibody	100 µg	AKR-009

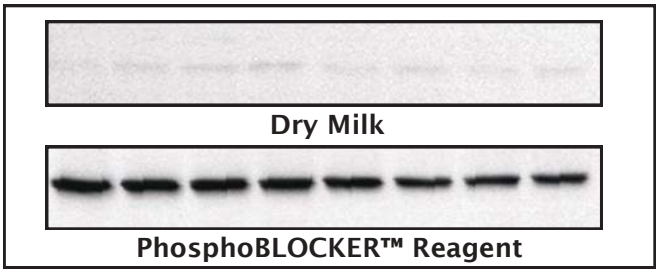
PhosphoBLOCKER™ Western Blot Blocking Reagent

Western blot blockers such as dry milk or serum are sufficient to block unreactive sites on the membrane. However, they are not designed to preserve phosphoprotein antigens during blotting.

- **High Sensitivity**: Enhances low level phosphoprotein signal without increasing background
- **Easy-to-use**: Premixed dry blend

Recent Product Citations

1. Shinoda, K. et al. (2015). Pin1 facilitates NF-κB activation and promotes tumour progression in human hepatocellular carcinoma. *Br. J. Cancer* 10.1038/bjc.2015.272.
2. Matsushima, M. et al. (2015). Intravesical dual PI3K/mTOR complex 1/2 inhibitor NVP-BEZ235 therapy in an orthotopic bladder cancer model. *Int. J. Oncol.* 10.3892/ijo.2015.2995.
3. Bemben, M.A. et al. (2015). Autism-associated mutation inhibits protein kinase C-mediated neuroligin-4X enhancement of excitatory synapses. *PNAS USA* **112**:2551-2556.
4. Shimura, T. et al. (2014). DNA damage signaling guards against perturbation of cyclin D1 expression triggered by low-dose long-term fractionated radiation. *Oncogenesis* **3**:e132.

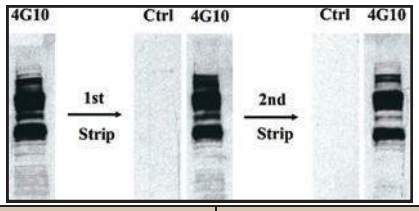


Superior Blocking with PhosphoBLOCKER™ Reagent. A549 cell lysate was blocked with dry milk or PhosphoBLOCKER before detection with anti-Phospho-p38 antibody.

Product Name	Size	Catalog Number
PhosphoBLOCKER™ Western Blot Blocking Reagent	1 L	AKR-103
	4 L	AKR-104

Phospho Antibody Stripping Solution

This solution removes anti-phosphoantibodies selectively from blots without significantly affecting the immobilized proteins, allowing re-probing of the blot with the same or a different antibody. Stripping of antibodies is done at room temperature, so no heating of blots is required.

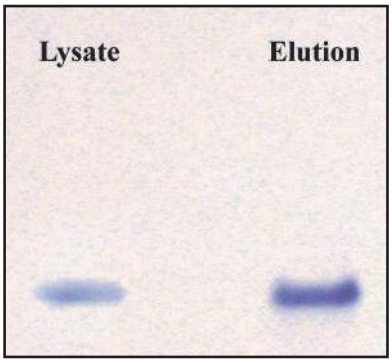


Multiple Blotting and Stripping of 4G10 Phosphotyrosine Antibody.

Product Name	Size	Catalog Number
Phospho Antibody Stripping Solution	10 mL	AKR-102

Phosphoprotein Purification Kit

Our Phosphoprotein Purification Kit allows you to enrich your phosphoprotein samples quickly and easily. Phosphorylated proteins are affinity purified from lysates with a single-step purification / enrichment matrix. The entire procedure takes about 4 hours. Each prep can process 2.5 mg of total lysate protein, or approximately one confluent 10 cm dish.



Enrichment of p-ERK. HeLa cell lysate was incubated with the Phosphoprotein Enrichment Matrix from the Phosphoprotein Purification Kit.

Product Name	Size	Catalog Number
Phosphoprotein Purification Kit	2 preps	AKR-105
	5 preps	AKR-106

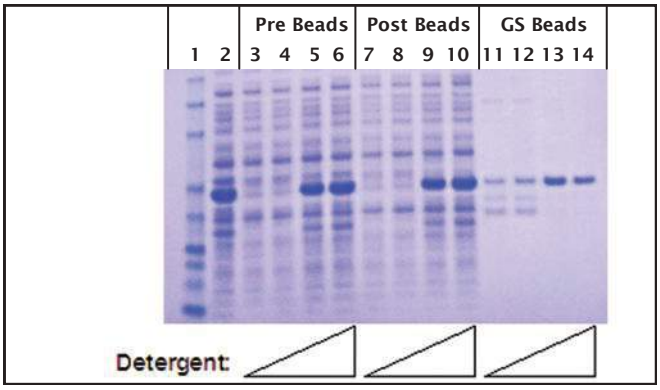
Rapid GST Inclusion Body Solubilization and Renaturation Kit

The Rapid GST Inclusion Body Solubilization and Renaturation Kit is designed to retrieve expressed GST fusion proteins in soluble form after lysis and extraction. Each kit contains sufficient reagents to solubilize and renature up to 5-10 liters of bacterial culture.

- **Fast Results**: No lengthy dialysis or dilution steps
- **Easy-to-Use**: No pH variation or redox pair
- **Optimized**: Designed specifically to solubilize and renature GST inclusion bodies

Recent Product Citations

1. Matsuoka, T. et al. (2014). Expression and characterization of honeybee, *Apis mellifera*, larva chymotrypsin-like protease. *Apidologie* 10.1007/s13592-014-0313-2.
2. Keller, D. et al. (2014). Mechanisms of HsSAS-6 assembly promoting centriole formation in human cells. *J. Cell Biol.* **204**:697-712.



Solubilization and Renaturation of GST-RTK Fusion Protein. **Lane 1**: MW STD; **Lane 2**: Whole E.Coli lysate; **Lane 3, 7, 11**: No detergent; **Lane 4, 8, 12**: 32-fold dilution; **Lane 5, 9, 13**: 8-fold dilution; **Lane 6, 10, 14**: 2-fold dilution.

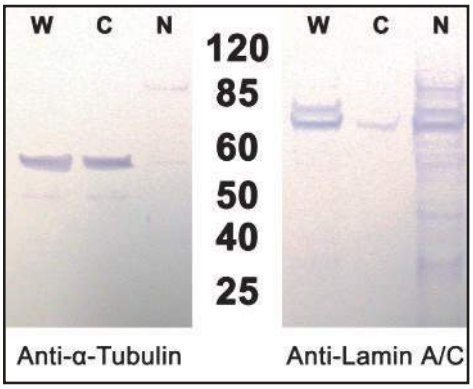
Product Name	Size	Catalog Number
Rapid GST Inclusion Body Solubilization and Renaturation Kit	1 Kit	AKR-110

Nuclear/Cytosolic Fractionation Kit

The Nuclear/Cytosolic Fractionation Kit provides a simple and fast tool to isolate nuclear extract from the cytoplasmic fraction of mammalian cells. The optimized protocol provides high protein recovery and low cross-contamination in less than 2 hours.

Recent Product Citations

1. Jeon, Y.J. et al. (2015). A set of NF-κB-regulated microRNAs induces acquired TRAIL resistance in lung cancer. *PNAS USA* **112**:E3355-E3364.
2. Zou, J. et al. (2014). A TIR domain protein from *E. faecalis* attenuates MyD88-mediated signaling and NF-κB activation. *PLoS One* **9**:e112010.



HEK293 Cell Fractionation. Whole cell (W), cytosolic (C), and nuclear (N) fractions were immunoblotted with Anti-Tubulin (cytosol specific) or Anti-Lamin A/C (nuclear specific).

Product Name	Size	Catalog Number
Nuclear/Cytosolic Fractionation Kit	20 preps	AKR-171
	100 preps	AKR-172

Bacterial Protein Extraction Reagents

Our Bacterial Protein Extraction Reagents contain a gentle, non-ionic detergent formulation that quickly extracts functional recombinant proteins from *E. coli* without mechanical disruption. The reagents are compatible with 6xHis and GST affinity purification systems and are suitable for small-scale or large-scale protein extraction.

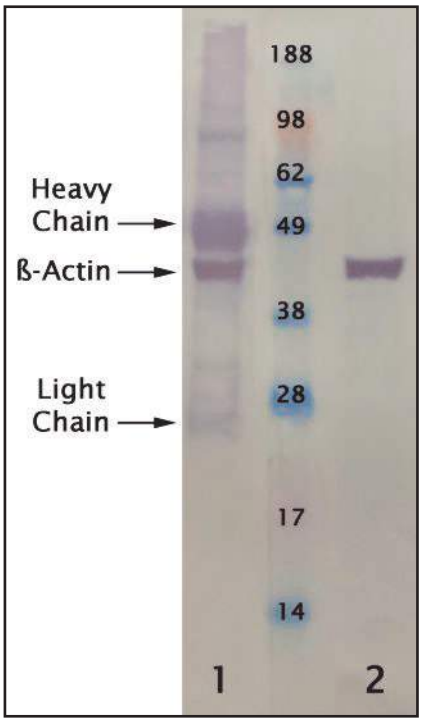
Product Name	Size	Catalog Number
5X Bacterial Protein Extraction Reagent (Phosphate)	50 mL	AKR-181
5X Bacterial Protein Extraction Reagent (Tris)	50 mL	AKR-180

Pure-IP™ Western Blot Detection Kit

Immunoprecipitation (IP) is used to isolate a protein of interest by capturing it with a resin-immobilized antibody specific for that protein. Typically, proteins are eluted from agarose beads under denaturing conditions that also release the IP antibody into solution, and then the protein is detected by Western blot. In many cases the antibody used for IP must also be used for immunoblotting, resulting in massive background due to interference from heavy and light chain antibodies.

The Pure-IP™ Western Blot Detection Kit circumvents this problem by using a proprietary HRP conjugate that cannot bind to contaminating heavy or light chains in the immunoblot lane of interest. The conjugate only detects the antibodies that are properly folded and bound to the protein of interest, resulting in a cleaner immunoblot. The kit works with both colorimetric and chemiluminescent detection methods.

- **Cleaner Results**: Reduces background from heavy and light antibody chains on Western blots
- **Versatile**: Suitable for IgG from most species



Detection of Actin from HeLa Whole Cell Lysate Mixed with Monoclonal Antibody. 20 µg of HeLa lysate and 2 µg of monoclonal antibody were loaded per lane. Lane 1 was probed with goat anti-mouse HRP; Lane 2 was probed with 1X HRP Conjugate Solution from the Pure-IP™ Western Blot Detection Kit.

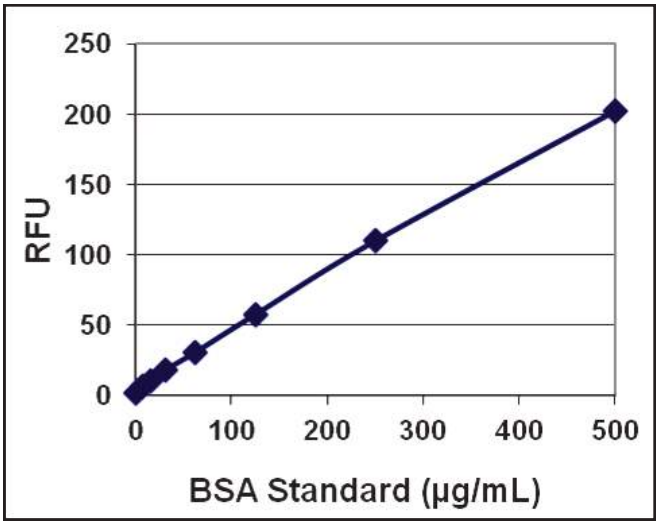
Product Name	Size	Catalog Number
Pure-IP™ Western Blot Detection Kit	20 Blots	PRB-5002

High Sensitivity Protein Quantitation Assay Kit

Our High Sensitivity Protein Quantitation Assay Kit provides a robust method to quantify protein concentrations in the µg/mL range.

The fluorometric format creates a significant sensitivity advantage over standard colorimetric methods such as Bradford or BCA assays.

- **Highly Sensitive**: Quantify protein concentrations as low as 5 µg/mL
- **Fast**: Obtain results in 5 to 15 minutes
- **Easy-to-use**: Read on a 96-well fluorescence plate reader



Standard Curve Generated with the High Sensitivity Protein Quantitation Assay Kit.

Product Name	Size	Catalog Number
High Sensitivity Protein Quantitation Assay Kit	100 Assays	AKR-185

Rapid Antibody Purification Kit

Our Rapid Antibody Purification Kit is designed for fast, single-step purification of high-quality IgG from ascites, serum, tissue culture media or hybridoma supernatants. IgG-containing samples are incubated with immobilized Protein A in the presence of a binding buffer. Non-IgG components are washed and IgG is subsequently eluted.

Recent Product Citation
Ye, J. et al. (2015). Tissue-specific expression pattern and histological distribution of NLRP3 in Chinese yellow chicken. *Vet. Res. Commun.* **39**:171-177.

Species	mg of IgG per Prep
Bovine	15-20
Goat	6-12
Human	20-30
Mouse	6-12
Rabbit	15-20

Capacity per Prep for the Rapid Antibody Purification Kit.

Product Name	Size	Catalog Number
Rapid Antibody Purification Kit	10 Preps	AKR-160

RIPA Buffer

RIPA buffer is a popular reagent for lysis of both adherent and suspension cells in culture, as well as making tissue homogenates. RIPA buffer extracts cytoplasmic, membrane, and nuclear proteins for a variety of downstream protein assays and immunoassays.

Our RIPA Buffer is provided as a 5X concentrate and is available with or without a Protease Inhibitor Cocktail.

Recent Product Citation
Matsumoto, Y. et al. (2014). Ezrin mediates neuritogenesis via down-regulation of RhoA activity in cultured cortical neurons. *PLoS One* **9**:e105435..

Product Name	Size	Catalog Number
5X RIPA Buffer	20 mL	AKR-191
5X RIPA Buffer, with Protease Inhibitor Cocktail	20 mL	AKR-190

Biogenuix Medsystems Pvt. Ltd.
412-B, Jyoti Shikhar Building, District Center,
Janakpuri, New Delhi-110058, INDIA
Phone : +91-11-4875-4875
E-mail : contact@biogenuix.com
Web : www.biogenuix.com