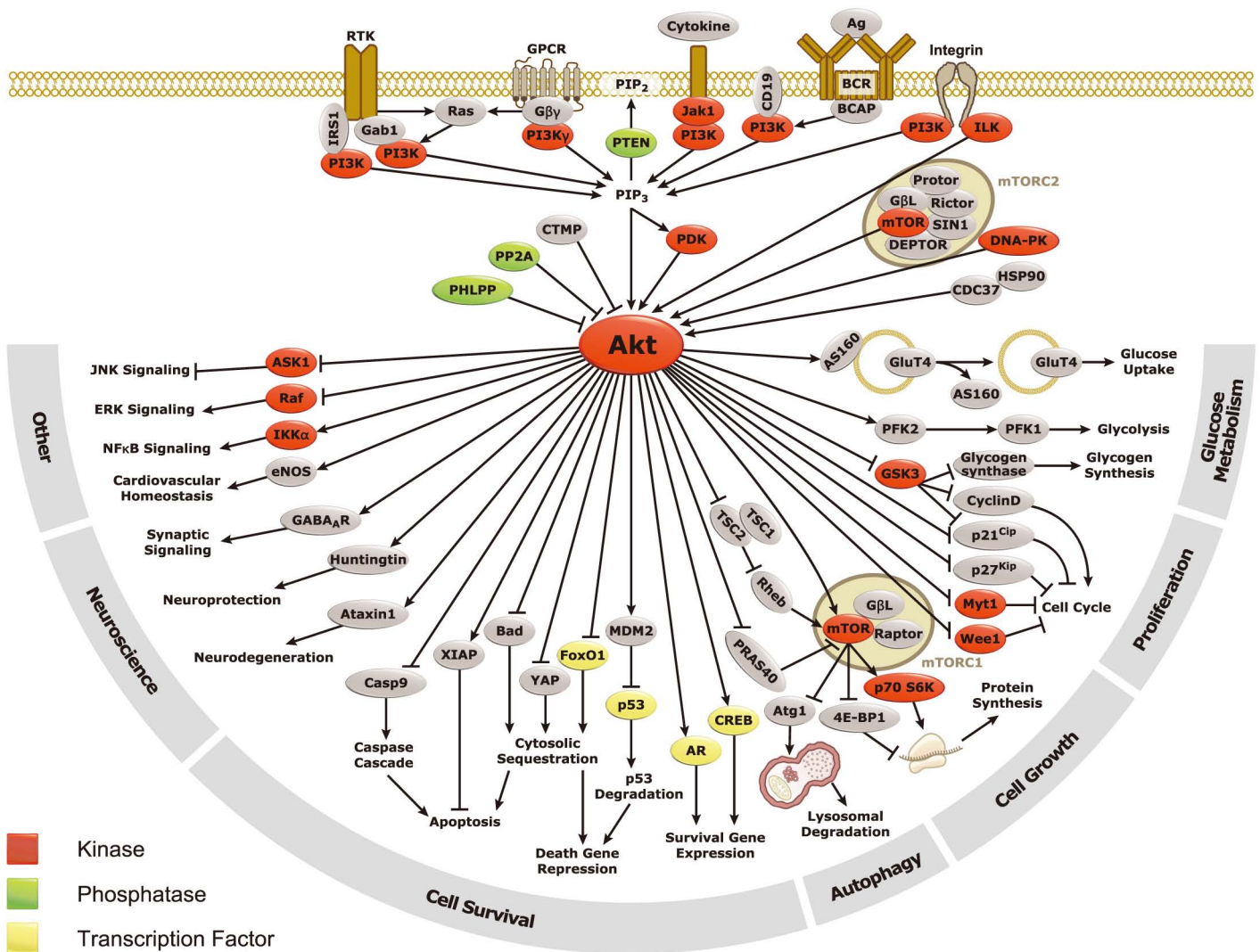


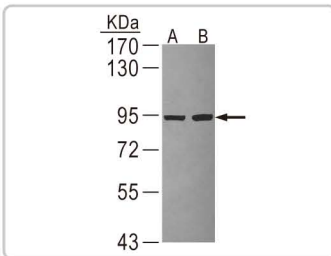
PI3K-Akt-mTOR Pathway



Akt, also known as protein kinase B (PKB), is a serine/threonine kinase that plays an important role in oncogenesis and the cellular processes of metabolism, apoptosis and autophagy. After being recruited to the plasma membrane by PIP₃, Akt is activated through phosphorylation of either T308 or S473 by an activating kinase. The availability of PIP₃ at the plasma membrane is tightly regulated by the opposing actions of PI 3-Kinase (PI3K), which phosphorylates PIP₂ to PIP₃, and PTEN, which dephosphorylates PIP₃ and abrogates Akt recruitment. The constitutive activation of PI3K and the loss of PTEN function are both associated with oncogenic progression. The mammalian target of rapamycin (mTOR) has been identified as the critical downstream mediator of Akt's oncogenic properties. The mTORC1 complex, composed of mTOR, GβL, Raptor and PRAS40 induces cell growth by stimulating protein synthesis, driving cell cycle progression and inhibiting autophagy. mTOR can also associate with different proteins to form the functionally distinct complex, rapamycin-insensitive mTORC2. It has recently been discovered that mTORC2 directly phosphorylates and activates Akt, indicating that mTOR plays key roles both upstream and downstream of Akt. GeneTex is proud to offer a complete line of antibodies for studying the various components of the PI3K-Akt-mTOR signaling pathway.

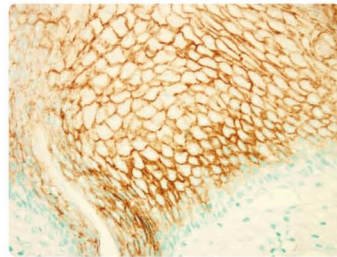
PI3K & PTEN

	Cat. No.	Product name	Host & Clonality	Reactivity	Application
PI3K p110α	GTX61312	PI3K p110α antibody [EP383Y]	Rb mAb	Hu	ICC/IF, IP, WB
	GTX25453	PI3K p100α antibody	Rb pAb	Hu	ELISA, IHC-F, IHC-P, WB
	GTX89196	PI3K p110α antibody	Gt pAb	Hu, Ms, Cow, Dog, Rat	ELISA, IHC
PI3K p110β	GTX61226	PI3K p110β antibody [Y384]	Rb mAb	Hu	FACS, IP, WB
	GTX59597	PI3K p110β antibody	Rb pAb	Hu	ELISA, IHC, WB
PI3K p110γ	GTX61238	PI3K p110γ antibody [Y388]	Rb mAb	Hu	FACS, IP, WB
	GTX89900	PI3K p110γ antibody	Gt pAb	Hu, Ms, Dog	ELISA, WB
PI3K p110δ	GTX61208	PI3K p110δ antibody [Y387]	Rb mAb	Hu	ICC/IF, IP, WB
	GTX21678	PI3K p110δ antibody	Rb pAb	Hu	ELISA, ICC/IF, WB
PI3K p85α	GTX61304	PI3K p85α antibody [EP380Y]	Rb mAb	Hu, Rat	FACS, ICC/IF, IHC-P, IP, WB
	GTX81224	PI3K p85α antibody	Rb pAb	Hu	IHC, WB
	GTX39409	PI3K p85α antibody [U5]	Ms mAb	Hu, Ms, Cow, Mk, Rat	IHC-Fr, IP, WB
PI3K p85β	GTX111689	PI3K p85β antibody	Rb pAb	Hu	WB
PI3K p85 α+β+γ	GTX50873	PI3K p85 α/ γ/ β antibody	Rb pAb	Hu, Ms, Rat	IHC-P
	GTX50858	PI3K p85 (phospho Tyr467) antibody	Rb pAb	Hu, Ms, Rat	WB
PI3K p150	GTX108953	PI3K p150 antibody	Rb pAb	Hu	WB
	GTX63620	PI3K p150 antibody [EPR5303(2)]	Rb mAb	Hu, Ms, Rat	FACS, ICC/IF, IHC, WB
	GTX25459	PI3K p150 antibody	Rb pAb	Hu	ELISA, IHC-F, IHC-P, WB
PI3K p101	GTX107813	PI3K p101 antibody	Rb pAb	Hu	IHC-P
PI3K C2α	GTX104640	PI3K C2α antibody	Rb pAb	Hu	ICC/IF, WB
	GTX89716	PI3K C2α antibody	Gt pAb	Hu, Ms, Dog	ELISA, IHC
Vps34	GTX107572	PI3K class 3 / Vps34 antibody	Rb pAb	Hu	WB
	GTX25451	PI3K class 3 / Vps34 antibody	Rb pAb	Hu	ELISA, IHC-F, IHC-P, WB
PTEN	GTX101025	PTEN antibody	Rb pAb	Hu, Ms	ICC/IF, WB
	GTX50411	PTEN antibody	Rb pAb	Hu, Ms, Rat	IHC, WB
	GTX83304	PTEN antibody [1B8]	Ms mAb	Hu, Ms	ELISA, FACS, ICC/IF, WB
	GTX61780	PTEN (phospho Thr366/Ser370) [EP229] antibody	Rb mAb	Hu	ICC/IF, IHC, IP, WB
	GTX38637	PTEN (phospho Ser380/Thr382/Thr383) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC-P, WB
	GTX13590	PTEN phospho S385 antibody	Rb pAb	Hu, Ms, Rat	WB



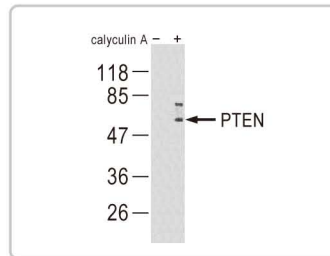
PI3K p85β antibody (GTX111689):

WB analysis of (A) Jurkat and (B) Raji cell lysates.



PI3K p101 antibody (GTX107813):

IHC-P analysis of normal human esophagus tissue.



PTEN (phospho Ser380 /Thr382/ Thr383) antibody (GTX38637):

WB analysis of extract from HT29 cells untreated or treated with calyculin A.

Selectd Application Reference

PTEN antibody (GTX101025)

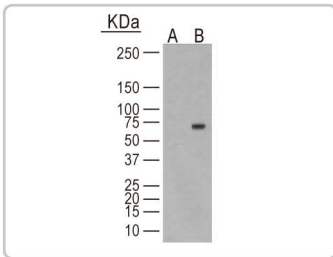
Huang, A.M. et al. (2011) Biochem Pharmacol. 82:35-42. (WB; Hu)

Akt / PKB

	Cat. No.	Product name	Host & Clonality	Reactivity	Application
Akt	GTX121937	Akt1 / Akt2 / Akt3 antibody	Rb pAb	Hu, Ms, Rat	WB, IHC
	GTX28805	Akt antibody	Rb pAb	Hu, Ms, Rat	CC, ELISA, ICC/IF, IHC-P, IP, WB
Akt1	GTX101074	Akt1 antibody	Rb pAb	Hu	ICC/IF, IHC-P, WB
	GTX50648	Akt1 antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB
	GTX62493	Akt1 antibody [M1843]	Ms mAb	Hu	WB
Akt2	GTX107564	Akt2 antibody	Rb pAb	Hu	WB
	GTX50494	Akt2 Antibody	Rb pAb	Hu, Ms, Rat	IHC, WB
	GTX83257	Akt2 antibody [1B6]	Ms mAb	Hu, Mk, Rat	ELISA, ICC/IF, WB
	GTX84908	Akt2 antibody [4H7]	Ms mAb	Hu	FACS, ICC/IF, IHC, WB
Akt3	GTX113311	Akt3 antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, WB
	GTX84905	Akt3 antibody [9H8]	Ms mAb	Hu, Ms	ICC/IF, IHC, WB
Phospho-Akt	GTX50869	Akt1 / Akt2 / Akt3 (phospho Tyr315/316/312) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB
	GTX28933	Akt (phospho Thr308) antibody	Rb pAb	Hu, Ms	ELISA, WB
	GTX79150	Akt (phospho Thr308) antibody	Rb pAb	Hu	ICC/IF, IHC, WB
	GTX50339	Akt1 (phospho Thr450) Antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB

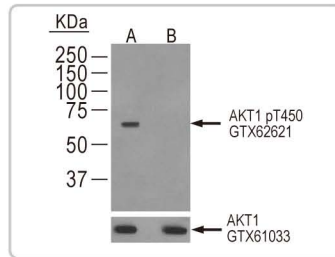
Akt / PKB

	Cat. No.	Product name	Host & Clonality	Reactivity	Application
Phospho-Akt	GTX50128	Akt (phospho Ser473) antibody	Rb pAb	Hu, Ms, Rat	IHC, WB
	GTX11901	Akt1 (phospho Ser473) antibody [104A282]	Ms mAb	Hu, Ms	ICC/IF, IP, WB
	GTX85634	Akt2 (phospho Ser474) antibody	Rb pAb	Hu, Ms, Rat	IHC-P, WB



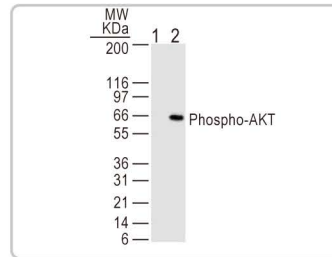
Akt1 (phospho Thr308) antibody [EP2107Y] (GTX61798):

WB analysis of (A) untreated and (B) PDGF-treated NIH3T3 cell lysates.



Akt1 (phospho Thr450) antibody [EPR4157] (GTX62621):

WB analysis of (A) untreated and (B) λ phosphatase-treated NIH3T3 cell lysates.



Akt1 (phospho Ser473) antibody [104A282] (GTX11901):

WB analysis of (1) untreated and (2) PDGF-treated NIH3T3 cell lysates.

Select Application Reference

Akt (phospho Thr308) antibody (GTX28933)
Akt1 (phospho Ser473) antibody [104A282] (GTX11901)

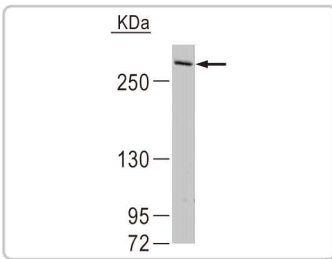
Matsuda, N. et al. (2007) Cardiovasc Res. 76:132-40. (WB; Ms)

Substrates of Akt

	Cat. No.	Product name	Host & Clonality	Reactivity	Application
Cell Survival via Gene Regulation	GTX38667	AR (phospho Ser213) antibody	Rb pAb	Hu	ICC/IF, WB
	GTX50126	CREB (phospho Ser133) antibody	Rb pAb	Hu	IHC, WB
	GTX50179	FoxO1 (phospho Ser256) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB
	GTX50196	FoxO1 (phospho Ser319) antibody	Rb pAb	Hu, Ms	ICC/IF, IHC, WB
	GTX79072	FoxO3A (phospho Ser253) antibody	Rb pAb	Hu, Ms, Rat	ELISA, IHC, WB
	GTX50197	FoxO4 (phospho Ser197) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB
	GTX50357	MDM2 (phospho Ser166) antibody	Rb pAb	Hu	ICC/IF, IHC, WB
	GTX21094	MDM2 (phospho Ser185) antibody	Rb pAb	Hu, Ms	ELISA, IHC-P, IP, WB
Cell Survival via Apoptosis Repression	GTX50136	Bad (phospho Ser136) antibody	Rb pAb	Ms	IHC, WB
	GTX38680	Bad (phospho Ser136) antibody	Rb pAb	Hu, Ms, Rat	IHC-P
	GTX85616	PDCD4 (phospho Ser457) antibody	Rb pAb	Hu, Ms, Rat	ELISA, IHC-P, WB
	GTX48645	PDCD4 (phospho Ser457) antibody [2E10.C12]	Ms mAb	Hu, Ms, Rat, XI	ELISA, IHC, WB
	GTX18032	PEA15 (phospho Ser116) antibody	Rb pAb	Hu, Ms, Rat	WB
Proliferation	GTX50140	ERa (phospho Ser167) antibody	Rb pAb	Hu, Ms	ICC/IF, IHC, WB
	GTX38649	GATA1 (phospho Ser310) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, WB
	GTX62233	p21Cip1 (phospho Ser145) antibody [EP1138]	Rb mAb	Hu, Ms, Rat	ICC/IF, IHC-P, WB
	GTX50247	p21Cip1 (phospho Thr145) antibody	Rb pAb	Hu	IHC-P
	Protein Synthesis	GTX50343	eIF4B (phospho Ser422) antibody	Rb pAb	Hu, Ms
GTX50258		mTOR (phospho Ser2448) antibody	Rb pAb	Hu	ICC/IF, IHC, WB
GTX79009		mTOR (phospho Ser2448) antibody	Rb pAb	Hu, Ms, Rat	IHC, WB
GTX63745		PRAS40 (phospho Thr246) antibody [EPR6262]	Rb pAb	Hu, Ms	IP, WB
GTX50267		S6 Ribosomal Protein (phospho Ser235) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, WB
GTX61434		TSC2 (phospho Ser939) antibody [EP1062Y]	Rb mAb	Hu, Ms, Rat	ICC/IF, WB
GTX78927		TSC2 (phospho Ser1254) antibody	Rb pAb	Hu	ELISA, IHC, WB
GTX62919		TSC2 (phospho Thr1462) antibody [EPR1060(2)]	Rb mAb	Hu, Ms	ICC/IF, IHC, IHC-M, WB
Glucose Metabolism	GTX76675	AS160 (phospho Thr642) antibody	Rb pAb	Hu, Ms, Rb, Rat	WB
	GTX50095	GSK3a (phospho Ser21) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB
	GTX29765	GSK3a (phospho Ser21) antibody	Rabbit	Hu	WB
	GTX50090	GSK3b (phospho Ser9) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB
	GTX86837	GSK3b (phospho Ser9) antibody	Rb pAb	Hu, Ms, Rat	ELISA, IHC, IP, WB
Cross-Talk between Signaling Pathways	GTX50228	ASK1 (phospho Ser83) antibody	Rb pAb	Hu	IHC, WB
	GTX50190	IKK α (phospho Thr23) antibody	Rb pAb	Hu, Ms, Rat	IHC, WB
	GTX78955	Raf1 (phospho Ser259) antibody	Rb pAb	Hu, Ms, Rat	IHC, WB
	GTX50227	SEK1/MKK4 (phospho Ser80) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB
Cytoskeletal Organization	GTX50244	Ezrin (phospho Thr567) antibody	Rb pAb	Hu, Ms, Rat	WB
	GTX50245	Rac1 (phospho Ser71) antibody	Rb pAb	Hu, Ms, Rat	WB
Other	GTX50200	Chk1 (phospho Ser280) antibody	Rb pAb	Hu	WB
	GTX50212	eNOS (phospho Ser1177) antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC-P
	GTX42866	eNOS (phospho Ser1177) antibody [BDI250]	Ms mAb		ELISA, WB
	GTX61764	PTP1B (phospho Ser50) antibody [EP1838Y]	Rb mAb	Hu	WB

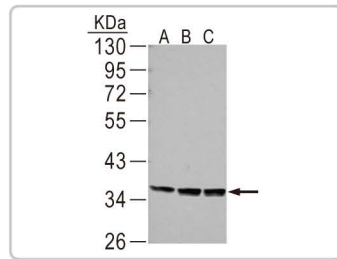
mTOR complex & regulator

	Cat. No.	Product name	Host & Clonality	Reactivity	Application
mTOR & GβL	GTX101557	mTOR antibody	Rb pAb	Hu, Ms, Rat	IHC-P, WB
	GTX50541	mTOR antibody	Rb pAb	Hu, Ms, Rat	ICC/IF, IHC, WB
	GTX22732	mTOR antibody	Rb pAb	Hu, Rat	ICC/IF, IP, WB
	GTX50258	mTOR (phospho Ser2448) antibody	Rb pAb	Hu	ICC/IF, IHC, WB
	GTX79009	mTOR (phospho Ser2448) antibody	Rb pAb	Hu, Ms, Rat	IHC, WB
	GTX116747	GβL antibody	Rb pAb	Hu	WB
	GTX82202	GβL antibody	Ch pAb	Hu, Ms, Rat	WB
Complex 1 components	GTX82789	Rictor antibody [7B3]	Ms mAb	Hu, Ms, Mk	ELISA, ICC/IF, IHC
	GTX89552	Rictor antibody	Gt pAb	Hu, Ms, Dog	ELISA, IHC
	GTX116540	DEPTOR antibody	Rb pAb	Hu	WB
	GTX124197	Protor antibody	Rb pAb	Hu	WB
	GTX45033	Protor antibody	Rb pAb	Hu	WB
	GTX48547	SIN1 antibody	Rb pAb	Hu	WB
Complex 2 components	GTX25454	Raptor antibody	Rb pAb	Hu, Ms, Rat	WB
Regulators	GTX61370	TSC1 antibody [EP318Y]	Rb mAb	Hu	IHC-P, WB
	GTX89366	TSC1 antibody	Gt pAb	Hu, Ms, Dog, Rat	ELISA, WB
	GTX81899	TSC2 antibody	Rb pAb	Hu	ELISA, IHC, WB
	GTX61434	TSC2 (phospho Ser939) antibody [EP1062Y]	Rb mAb	Hu, Ms, Rat	ICC/IF, WB
	GTX62919	TSC2 (phospho Thr1462) antibody [EPR1060(2)]	Rb mAb	Hu, Ms	ICC/IF, IHC-M, IHC-P, WB
	GTX108597	Rheb antibody	Rb pAb	Hu	WB
	GTX118391	PRAS40 antibody	Rb pAb	Hu, Ms	IHC-P, WB
	GTX87391	PRAS40 antibody	Rb pAb	Hu, Ms, Rat	ELISA, IHC, WB
	GTX63745	PRAS40 (phospho Thr246) antibody [EPR6262]	Rb pAb	Hu, Ms	IP, WB



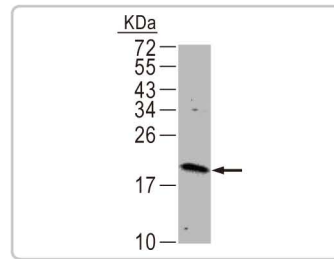
mTOR antibody (GTX101557):

WB analysis of 293T whole cell lysate.



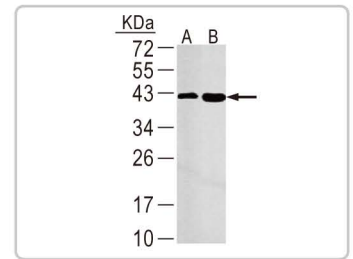
Protor antibody (GTX124197):

WB analysis of (A) Jurkat, (B) Raji and (C) K562 cell lysates.



Rheb antibody (GTX108597):

WB analysis of A431 whole cell lysate.



PRAS40 antibody (GTX118391):

WB analysis of (A) 293T and (B) HeLa cell lysates.

Antibody sampler kits for PI3K-Akt-mTOR pathway

Cat. No.	Product	Kit includes antibodies against
GTX300032	PI3K-Akt pathway sampler kit	Akt1+2+3, Akt1 (phospho Ser473), PTEN, PTEN (phospho Thr366/Ser370), PI3K p110 α , PDK1 (phospho Ser241)
GTX300033	Akt-mTOR pathway sampler kit	Akt1+2+3, Akt1 (phospho Ser473), mTOR, mTOR (phospho Ser2448)
GTX300034	mTOR inhibitor sampler kit	LKB1, AMPK β 1, AMPK β 1 (phospho Ser181), PTEN, PTEN (phospho Thr366/Ser370)



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