

PhosphoSens Sensor Peptides for Red-Shift Time Resolved Fluorescence Kinase Assays

A Powerful Approach for Understanding Kinase and Kinase Inhibitor Activity

Search Below to Match Your Kinase With Our Sensor Peptide Substrate

Bulk Sensor Peptide (PN:CSKS-AQTxxxxB): Designed for higher throughput applications. 1mg is sufficient for ~2,00 assays in a low-volume 384-well plate (10µM sensor peptide in 25µL reaction volume). Available from 1mg to +200mg aliquots. We also offer optimized buffers and reagents (sold separately, refer to Table 7 below).

Red-Shift Evaluation Kits (PN:CSKS-AQTxxxxKR): Designed for streamlined technology assessment. Each Evaluation kit enables 96 reactions in a low-volume 384-well plate (10µM sensor peptide in 25µL reaction volume). Includes all assay components (excluding your kinase). Refer to Table 6 below.

HGNC (Common) Name	HGNC Approved Full Name	GenBank Acc.No.	Manning Name	Ser (S) Thr (T) Tyr (Y)	Family	Sensor Peptide Product Number (Bulk, Kit)	Sensor Peptide MW (g/mol)	Enzyme Used in Sensor Peptide Development
*See tables 2-6 below for reaction conditions, reaction set up, and Red-Shift assay components.								
ABL1	ABL proto-oncogene 1, non-receptor tyrosine kinase	NM_005157	ABL1	Y	Abl	CSKS-AQT0030B CSKS-AQT0030KR	1987.4	Carna (08-101)
ABL1 [E255K]	ABL proto-oncogene 1, non-receptor tyrosine kinase	NM_005157	ABL1	Y	Abl	Please inquire.		Carna (08-094)
ABL1 [E255V]	ABL proto-oncogene 1, non-receptor tyrosine kinase	NM_005157	ABL1	Y	Abl	Please inquire.		SignalChem (A03-12HH)
ABL1 [H396P]	ABL proto-oncogene 1, non-receptor tyrosine kinase	NM_005157	ABL1	Y	Abl	Please inquire.		SignalChem (A03-12LG)
ABL1 [O252H]	ABL proto-oncogene 1, non-receptor tyrosine kinase	NM_005157	ABL1	Y	Abl	Please inquire.		SignalChem (A03-12FG)
ABL1 [T315I]	ABL proto-oncogene 1, non-receptor tyrosine kinase	NM_005157	ABL1	Y	Abl	Please inquire.		Carna (08-093)
ABL1 [Y253F]	ABL proto-oncogene 1, non-receptor tyrosine kinase	NM_005157	ABL1	Y	Abl	Please inquire.		SignalChem (A03-12EG)
ABL1 [Y253H]	ABL proto-oncogene 1, non-receptor tyrosine kinase	NM_005157	ABL1	Y	Abl	Please inquire.		SignalChem (A03-12GH)
ABL2 (ARG)	ABL proto-oncogene 2, non-receptor tyrosine kinase	NM_005157	ARG	Y	Abl	CSKS-AQT0030B CSKS-AQT0030KR	1987.4	Carna (08-102)
AKT1 (PKB)	AKT Serine/Threonine Kinase 1	NM_005163	AKT1	S/T	Akt	CSKS-AQT0569B CSKS-AQT0569KR	1365.6	Carna (01-101)
AKT1 (Full Length)	AKT Serine/Threonine Kinase 1	NM_005163	AKT1	S/T	Akt	Please inquire.		SignalChem(A16-10H)
AKT2 (PKBb)	AKT Serine/Threonine Kinase 2	NM_001626	AKT2	S/T	Akt	CSKS-AQT0232B CSKS-AQT0232KR	1666.0	Carna (01-102)
AKT3 (PKBg)	AKT Serine/Threonine Kinase 3	NM_005465	AKT3	S/T	Akt	CSKS-AQT0569B CSKS-AQT0569KR	1365.6	Carna (01-103)
ALK	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-518)
ALK [C1156Y]	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	Please inquire.		Carna (08-530)
ALK [F1174L]	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	Please inquire.		Carna (08-519)
ALK [G1202R]	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	Please inquire.		Carna (08-544)
ALK [G1269A]	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	Please inquire.		Carna (08-537)
ALK [L1196M/G1202R]	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna(08-556)
ALK [L1196M]	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	Please inquire.		Carna (08-529)
ALK [R1275Q]	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	Please inquire.		Carna (08-520)
ALK [T1151-L1152 INS T]	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	Please inquire.		Carna (08-539)
ALK:NPM1 (NPM1-ALK)	ALK receptor tyrosine kinase	NM_004304	ALK	Y	ALK	Please inquire.		Carna (08-517)
AP2 (AAK1)	AP2 associated kinase 1	NM_014911	AAK1	S/T	NAK	Please inquire.		Please inquire.

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AURKA (AURA)	aurora kinase A	NM_003600	AurA	S/T	Aur	CSKS-AQT0186B CSKS-AQT0186KR	1398.7	Carna (05-101)
AURKB (AURB)	aurora kinase B	NM_004217	AurB	S/T	Aur	CSKS-AQT0186B CSKS-AQT0186KR	1398.7	Carna (05-102)
AURKB (AURB) [G160L]	aurora kinase B	NM_004217	AurB	S/T	Aur	Please inquire.		SignalChem (A31-10BG)
AURKC (AURC)	aurora kinase C	NM_004217	AurB	S/T	Aur	CSKS-AQT0186B CSKS-AQT0186KR	1398.7	Carna (05-103)
AXL	AXL receptor tyrosine kinase	NM_001699	AXL	Y	Axl	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-107)
BCKDK	branched chain ketoacid dehydrogenase kinase	NM_005881	BCKDK	S/T	PDHK	Please inquire.		Please inquire.
BLK	BLK proto-oncogene, Src family tyrosine kinase	NM_001715	BLK	Y	Src	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-164)
BMP2K (BIKE)	BMP2 inducible kinase	NM_017593	BIKE	S/T	NAK	Please inquire.		Please inquire.
BMX	BMX non-receptor tyrosine kinase	NM_001721	BMX	Y	Tec	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-179)
BRAF (BRAF1, RAFB1)	B-Raf proto-oncogene, serine/threonine kinase	NP_004324.2	BRAF	S/T	RAF	Please inquire.		Please inquire.
BRAF, b-[V600E]	B-Raf proto-oncogene, serine/threonine kinase	NM_004333	BRAF	S/T	RAF	CSKS-AQT0682B CSKS-AQT0682KR	2715.0	INVT (PV3849)
BRSK1	BR serine/threonine kinase 1	NM_032430	BRSK1	S/T	CAMKL	CSKS-AQT0900B CSKS-AQT0900KR	1998.4	Carna (02-115)
BRSK2	BR serine/threonine kinase 2	NM_003957	BRSK2	S/T	CAMKL	CSKS-AQT0900B CSKS-AQT0900KR	1998.4	Carna (02-116)
BTK	Bruton tyrosine kinase	NM_000061	BTK	Y	Tec	CSKS-AQT0663B CSKS-AQT0663KR	1341.6	Carna (08-180)
BTK [C481S]	Bruton tyrosine kinase	NM_000061	BTK	Y	Tec	Please inquire.		Carna (08-547)
BUB1	BUB1 mitotic checkpoint serine/threonine kinase	NM_004336	BUB1	S/T	BUB	CSKS-AQT0349B CSKS-AQT0349KR	2673.2	Carna (05-187)
BUBR1/BUB1B	BUB1 mitotic checkpoint serine/threonine kinase B	NM_001211	BUBR1	S/T	BUB	Please inquire.		Carna (05-105)
CAMK1 (CAMK1α)	calcium/calmodulin dependent protein kinase I	NM_003656	CaMK1a	S/T	CAMK1	Please inquire.		Carna (02-104)
CAMK1D (CAMK1δ)	calcium/calmodulin dependent protein kinase ID	NM_020397	CaMK1d	S/T	CAMK1	CSKS-AQT0420B CSKS-AQT0420KR-1	1821.2	SignalChem (C09-10G)
CAMK1G (CAMK1γ)	calcium/calmodulin dependent protein kinase IG	NM_020439	CaMK1g	S/T	CAMK1	CSKS-AQT0420B CSKS-AQT0420KR-1	1821.2	SignalChem (C10-11G)
CAMK2A (CAMK2α)	calcium/calmodulin dependent protein kinase II alpha	NM_003656	CaMK2a	S/T	CAMK2	CSKS-AQT0425B CSKS-AQT0425KR-1	2143.5	Carna (02-109)
CAMK2B (CAMK2β)	calcium/calmodulin dependent protein kinase II beta	NM_001220	CaMK2b	S/T	CAMK2	CSKS-AQT0425B CSKS-AQT0425KR-1	2143.5	Carna (02-110)
CAMK2D (CAMK2δ)	calcium/calmodulin dependent protein kinase II delta	NM_001221	CaMK2d	S/T	CAMK2	CSKS-AQT0425B CSKS-AQT0425KR-1	2143.5	Carna (02-111)
CAMK2G (CAMK2γ)	calcium/calmodulin dependent protein kinase II gamma	NM_001222	CaMK2g	S/T	CAMK2	CSKS-AQT0425B CSKS-AQT0425KR-1	2143.5	Carna (02-112)
CAMK4	calcium/calmodulin dependent protein kinase IV	NM_001744	CaMK4	S/T	CAMK1	CSKS-AQT0420B CSKS-AQT0420KR-1	1821.2	Carna (02-108)
CAMKK1	calcium/calmodulin dependent protein kinase kinase 1	NM_006549	CaMKK2	S/T	CAMKK	Please inquire.		Carna (05-157)
CAMKK2	calcium/calmodulin dependent protein kinase kinase 2	NM_006549	CaMKK2	S/T	CAMKK	Please inquire.		Please inquire.
CDC42BPA (MRCKA)	CDC42 binding protein kinase alpha	NM_003607	MRCKa	S/T	DMPK	Please inquire.		Please inquire.
CDC42BPB (MRCKB)	CDC42 binding protein kinase beta	NM_006035	MRCKb	S/T	DMPK	Please inquire.		Please inquire.
CDC42BPG (DMPK2)	CDC42 binding protein kinase gamma	NM_017525	DMPK2	S/T	DMPK	CSKS-AQT0837B CSKS-AQT0837KR	1956.2	SignalChem (D17-11G)
CDC7/DBF4 (CDC7)	cell division cycle 7	NM_003503	CDC7	S/T	CDC7	Please inquire.		Please inquire.

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CDK1 (CDC2)/CycA1	cyclin dependent kinase 1	NM_001786	CDC2	S/T	CDK	Please inquire.		SignalChem (C22-18BG)
CDK1 (CDC2)/CycA2	cyclin dependent kinase 1	NM_001786	CDC2	S/T	CDK	CSKS-AQT0297B CSKS-AQT0297KR	1504.9	Carna (04-119)
CDK1/CycB1(CDC2)	cyclin dependent kinase 1	NM_001786	CDC2	S/T	CDK	CSKS-AQT0297B CSKS-AQT0297KR	1504.9	Carna (04-102)
CDK1/CycE1	cyclin dependent kinase 1	NM_001786	CDC2	S/T	CDK	CSKS-AQT0296B CSKS-AQT0296KR	1052.2	Proqinase (0134-0055-1)
CDK2/CycA1	cyclin dependent kinase 2	NM_001798	CDK2	S/T	CDK	Please inquire.		SignalChem (C29-10BG)
CDK2/CycA2	cyclin dependent kinase 2	NM_001798	CDK2	S/T	CDK	Please inquire.		Carna (04-103)
CDK2/CycD1	cyclin dependent kinase 2	NM_001798	CDK2	S/T	CDK	Please inquire.		Please inquire.
CDK2/CycE1	cyclin dependent kinase 2	NM_001798	CDK2	S/T	CDK	CSKS-AQT0255B CSKS-AQT0255KR	1449.8	Carna (04-165)
CDK2/CycE2	cyclin dependent kinase 2	NM_001798	CDK2	S/T	CDK	Please inquire.		SignalChem (C29-18BG)
CDK2/CycO	cyclin dependent kinase 2	NM_001798	CDK2	S/T	CDK	Please inquire.		Please inquire.
CDK3/CycE1	cyclin dependent kinase 3	NM_001258	CDK3	S/T	CDK	Please inquire.		Carna (04-104)
CDK3/CycE2	cyclin dependent kinase 3	NM_001258	CDK3	S/T	CDK	Please inquire.		SignalChem (C30-10BG)
CDK4 /CycD3	cyclin dependent kinase 4	NM_000075	CDK4	S/T	CDK	CSKS-AQT0730B CSKS-AQT0730KR	2578.0	Carna (04-105)
CDK4/CycD1	cyclin dependent kinase 4	NM_001258	CDK3	S/T	CDK	Please inquire.		Please inquire.
CDK4/CycD2	cyclin dependent kinase 4	NM_000075	CDK4	S/T	CDK	Please inquire.		Proqinase (0142-0375-1)
CDK5/p25	cyclin dependent kinase 5	NM_004935	CDK5	S/T	CDK	CSKS-AQT0730B CSKS-AQT0730KR	2578.0	Carna (04-106)
CDK5/p35	cyclin dependent kinase 5	NM_004935	CDK5	S/T	CDK	CSKS-AQT0255B CSKS-AQT0255KR	1449.8	SignalChem (C33-10BG)
CDK6/CycD1	cyclin dependent kinase 6	NM_001259	CDK6	S/T	CDK	CSKS-AQT0258B CSKS-AQT0258KR	2506.9	Carna (04-114)
CDK6/CycD2	cyclin dependent kinase 6	NM_001259	CDK6	S/T	CDK	Please inquire.		Please inquire.
CDK6/CycD3	cyclin dependent kinase 6	NM_001259	CDK6	S/T	CDK	CSKS-AQT0730B CSKS-AQT0730KR	2578.0	Carna (04-107)
CDK7/CycH/MAT1	cyclin dependent kinase 7	NM_001799	CDK7	S/T	CDK	CSKS-AQT0733B CSKS-AQT0733KR	3243.6	Carna (04-108)
CDK7/CycH1	cyclin dependent kinase 7	NM_001799	CDK7	S/T	CDK	Please inquire.		Please inquire.
CDK9 (TAK) w/CycK	cyclin dependent kinase 9	NM_001261.2	CDK9	S/T	CDK	Please inquire.		Carna (04-111)
CDK9 (TAK) w/CycT1	cyclin dependent kinase 9	NM_001261.2	CDK9	S/T	CDK	CSKS-AQT0449B CSKS-AQT0449KR	2581.0	Carna (04-110)
CDK9 (TAK)/CycT2	cyclin dependent kinase 9	NM_001261.2	CDK9	S/T	CDK	CSKS-AQT0449B CSKS-AQT0449KR	2581.0	Carna (04-121)
CDK12 (CRK7)/CycK	cyclin dependent kinase 12	NM_016507.3	CRK7	S/T	CDK	Please inquire.		Please inquire.
CDK13 (CHED)/CycK	cyclin dependent kinase 13	NM_003718	CHED	S/T	CDK	Please inquire.		Please inquire.
CDK14/CycY	cyclin dependent kinase 14		CHED	S/T	CDK	CSKS-AQT0730B CSKS-AQT0730KR	2578.0	SignalChem(P15-10G)
CDK15/CycB1	cyclin dependent kinase 15			S/T	CDK	Please inquire.		Please inquire.
CDK16/CycY	cyclin dependent kinase 16	NM_006201	PCTAIRE1	S/T	CDK	CSKS-AQT0730B CSKS-AQT0730KR	2578.0	Carna(04-116)
CDK17 (PCTAIRE2)/CycY	cyclin dependent kinase 17	NM_002595	PCTAIRE2	S/T	CDK	CSKS-AQT0730B CSKS-AQT0730KR	2578.0	SignalChem(P10-10G)
CDK17 (PCTAIRE2, PCTK2)/p35NCK	cyclin dependent kinase 17	NM_002595	PCTAIRE2	S/T	CDK	Please inquire.		Please inquire.
CDK18/CycY (PCTAIRE3)	cyclin dependent kinase 18	NM_002596	PCTAIRE3	S/T	CDK	CSKS-AQT0730B CSKS-AQT0730KR	2578.0	SignalChem(P11-10G)
CDK19 (CDK11)/CycC	cyclin dependent kinase 19	NM_015076	CDK11	S/T	CDK	Please inquire.		Please inquire.
CDKL5	cyclin-dependent kinase-like 5	NM_003159	CDKL5	S/T	CDKL	Please inquire.		Please inquire.
CDPK1 (toxoplasma gondii)						Please inquire.		Academic Lab

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CDPK3 (toxoplasma gondii)						Please inquire.		Academic Lab
CHEK1 (CHK1)	checkpoint kinase 1	NM_001274	CHK1	S/T	CAMKL	CSKS-AQT0694B CSKS-AQT0694KR	1466.8	Carna (02-117)
CHEK2 (CHK2)	checkpoint kinase 2	NM_007194	CHK2	S/T	RAD53	CSKS-AQT0694B CSKS-AQT0694KR	1466.8	Carna (02-162)
CHUK (IKKA, IKKα)	conserved helix-loop-helix ubiquitous kinase	NM_001278	IKKα	S/T	IKK	Please inquire.		Please inquire.
CIT (CRIK)	citron rho-interacting serine/threonine kinase	NM_007174	CRIK	S/T	DMPK	CSKS-AQT0537B CSKS-AQT0537KR	1509.8	Carna (01-104)
CLK1	CDC like kinase 1	NM_004071	CLK1	S/T	CLK	CSKS-AQT0360B CSKS-AQT0360KR	2741.0	SignalChem (C57-11G)
CLK2	CDC like kinase 2	NM_001291	CLK2	S/T	CLK	CSKS-AQT0360B CSKS-AQT0360KR	2741.0	Carna (04-127)
CLK3	CDC like kinase 3	NM_001292	CLK3	S/T	CLK	CSKS-AQT0360B CSKS-AQT0360KR	2741.0	Carna (04-128)
CLK4	CDC like kinase 4	NM_020666	CLK4	S/T	CLK	CSKS-AQT0360B CSKS-AQT0360KR	2741.0	Please inquire.
CSF1R (FMS)	colony stimulating factor 1 receptor	NM_005211	FMS	Y	PDGFR	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-155)
CSK	C-terminal Src kinase	NM_004383	CSK	Y	Csk	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-111)
CSNK1A1 (CK1A1, CK1α)	casein kinase 1 alpha 1	NM_001892	CK1a	S/T	CK1	Please inquire.		Carna (03-101)
CSNK1A1L (CK1A1L, CK1α2)	casein kinase 1 alpha 1 like	NM_145203	CK1a2	S/T	CK1	Please inquire.		SignalChem (C75-10G)
CSNK1D (CK1D, CK1δ)	casein kinase 1 delta	NM_001893	CK1d	S/T	CK1	Please inquire.		Carna (03-103)
CSNK1E (CK1E, CK1ε)	casein kinase 1 epsilon	NM_001894	CK1e	S/T	CK1	Please inquire.		Carna (03-104)
CSNK1G1 (CK1G1, CK1γ1)	casein kinase 1 gamma 1	NM_022048	CK1g1	S/T	CK1	Please inquire.		Carna (03-105)
CSNK1G2 (CK1G2, CK1γ2)	casein kinase 1 gamma 2	NM_001319	CK1g2	S/T	CK1	Please inquire.		Carna (03-106)
CSNK1G3 (CK1G3, CK1γ3)	casein kinase 1 gamma 3	NM_004384	CK1g3	S/T	CK1	Please inquire.		Carna (03-107)
CSNK2A1 (CK2A1, CK2α1)	casein kinase 2 alpha 1	NM_001895	CK2a1	S/T	CK2	Please inquire.		Thermo (PV3248)
CSNK2A2 (CK2A2, CK2α2)	casein kinase 2 alpha 2	NM_001896	CK2a2	S/T	CK2	Please inquire.		Thermo (PV3624)
DAPK1	death-associated protein kinase 1	NM_004938	DAPK1	S/T	DAPK	Please inquire.		SignalChem (D01-11G)
DAPK2 (DRP-1)	death-associated protein kinase 2	NM_014326	DAPK2	S/T	DAPK	Please inquire.		SignalChem (D02-10G)
DAPK3 (ZIPK)	death-associated protein kinase 3	NM_001348	DAPK3	S/T	DAPK	Please inquire.		Carna (02-136)
DCLK1 (DCAMKL1)	doublecortin like kinase 1	NM_004734	DCAMKL1	S/T	DCAMKL	Please inquire.		Carna (02-139)
DCLK2 (DCAMKL2)	doublecortin like kinase 2	NM_152619	DCAMKL2	S/T	DCAMKL	Please inquire.		Carna (02-140)
DDR1 (SRC treated)	discoidin domain receptor tyrosine kinase 1	NM_001954	DDR1	Y	DDR	CSKS-AQT0280B CSKS-AQT0280KR	1801.2	Carna (08-132)
DDR2	discoidin domain receptor tyrosine kinase 2	NM_006182	DDR2	Y	DDR	CSKS-AQT0235B CSKS-AQT0235KR	1830.2	Carna (08-114)
DMPK (DMPK1)	DM1 protein kinase	NM_006904	DMPK1	S/T	DMPK	Please inquire.		Please inquire.
DSTYK (RIPK5, SGK496)	dual serine/threonine and tyrosine protein kinase	NM_015375	SGK496	S/T	Other-Unique	Please inquire.		Please inquire.
DYRK1A	dual specificity tyrosine phosphorylation regulated kinase 1A	NM_001396	DYRK1A	S/T	DYRK	Please inquire.		Carna (04-130)
DYRK1B	dual specificity tyrosine phosphorylation regulated kinase 1B	NM_004714	DYRK1B	S/T	DYRK	Please inquire.		Carna (04-131)
DYRK2	dual specificity tyrosine phosphorylation regulated kinase 2	NM_006482	DYRK2	S/T	DYRK	Please inquire.		Carna (04-132)
DYRK3	dual specificity tyrosine phosphorylation regulated kinase 3	NM_003582	DYRK3	S/T	DYRK	Please inquire.		Carna (04-133)
DYRK4	dual specificity tyrosine phosphorylation regulated kinase 4	NM_003845	DYRK4	S/T	DYRK	Please inquire.		Carna (04-434)

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EEF2K (eEF2K)	eukaryotic elongation factor 2 kinase	NM_013302	eEF2K	S/T	Alpha	Please inquire.		Carna (10-113)
EGFR (D770_N771insNP G)	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	Please inquire.		Carna (08-553)
EGFR (ERBB1)	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	BPS (40187)
EGFR [C797S/L858R]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	CSKS-AQT0663B CSKS-AQT0663KR	1341.6	SignalChem (E10-122ZG)
EGFR [d746-750/C797S/T790M]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	CSKS-AQT0663B CSKS-AQT0663KR	1341.6	SignalChem (E10-122UG)
EGFR [d746-750/C797S]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	Please inquire.		SignalChem (E10-122TG)
EGFR [d746-750/T790M]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	Please inquire.		SignalChem (E10-122KG)
EGFR [d746-750]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	Please inquire.		Carna (08-527)
EGFR [L858R]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	Please inquire.		SignalChem (E10-122BG)
EGFR [L861Q]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	Please inquire.		Carna (08-513)
EGFR [T790M/C797S/L858R]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	Please inquire.		SignalChem (E10-122VG)
EGFR [T790M/L858R]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	CSKS-AQT0663B CSKS-AQT0663KR	1341.6	Carna (08-510)
EGFR [T790M]	epidermal growth factor receptor	NM_005228	EGFR	Y	EGFR	Please inquire.		Carna (08-194)
EIF2AK1 (HRI)	eukaryotic translation initiation factor 2 alpha kinase 1	NM_014413	HRI	S/T	PEK	CSKS-AQT0621B CSKS-AQT0621KR	3166.8	Carna (05-154)
EIF2AK2 (PKR)	eukaryotic translation initiation factor 2 alpha kinase 2	NM_002759	PKR	S/T	PEK	CSKS-AQT0355B CSKS-AQT0355KR	2705.0	Carna (05-156)
EIF2AK3 (PERK/PEK)	eukaryotic translation initiation factor 2 alpha kinase 3	NM_004836	PEK	S/T	PEK	Please inquire.		Carna (05-155)
EIF2AK4 (GCN2)	eukaryotic translation initiation factor 2 alpha kinase 4	NM_001013703	GCN2	S/T	PEK	CSKS-AQT0911B CSKS-AQT0911KR-2	2457.9	Carna (05-153)
EPHA1	EPH receptor A1	NM_005232	Epha1	Y	Eph	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-119)
EPHA2	EPH receptor A2	NM_004431	Epha2	Y	Eph	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-121)
EPHA3	EPH receptor A3	NM_005233	Epha3	Y	Eph	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-122)
EPHA4	EPH receptor A4	NM_004438	Epha4	Y	Eph	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-123)
EPHA5	EPH receptor A5	NM_004439	Epha5	Y	Eph	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-124)
EPHA6	EPH receptor A6	XM_114973	Epha6	Y	Eph	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-125)
EPHA7	EPH receptor A7	NM_004440	Epha7	Y	Eph	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-126)
EPHA8	EPH receptor A8	NM_020526	Epha8	Y	Eph	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-127)
EPHB1	EPH receptor B1	NM_004441	Ephb1	Y	Eph	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-128)
EPHB2	EPH receptor B2	NM_004442	Ephb2	Y	Eph	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-129)
EPHB3	EPH receptor B3	NM_004443	EpHb3	Y	Eph	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-130)
EPHB4	EPH receptor B4	NM_004444	Ephb4	Y	Eph	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-131)
ERBB2 (HER2)	erb-b2 receptor tyrosine kinase 2	NM_004448	HER2/ErbB2	Y	EGFR	Please inquire.		BPS (40230)
ERBB2 (HER2) [A775/G776insYVM A]	erb-b2 receptor tyrosine kinase 2	NM_004448	HER2/ErbB2	Y	EGFR	Please inquire.		SignalChem (E27-13BG)

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ERBB4 (HER4)	erb-b2 receptor tyrosine kinase 4	NM_005235	HER4/ErbB4	Y	EGFR	Please inquire.		Carna (08-118)
ERN1 (IRE1)	endoplasmic reticulum to nucleus signaling 1	NM_001433	IRE1	S/T	IRE	CSKS-AQT0715B CSKS-AQT0715KR	2775.2	Thermo (A30971)
ERN1 [R727A]	endoplasmic reticulum to nucleus signaling 1	NM_001433	IRE1	S/T	IRE	Please inquire.		SignalChem(E31-12BG)
ERN1 [R728A]	endoplasmic reticulum to nucleus signaling 1	NM_001433	IRE1	S/T	IRE	Please inquire.		SignalChem(E31-12CG)
ERN1 [R727A/R728A]	endoplasmic reticulum to nucleus signaling 1	NM_001433	IRE1	S/T	IRE	Please inquire.		SignalChem(E31-12DG)
ERN2 (IRE2)	endoplasmic reticulum to nucleus signaling 2	NM_033266	IRE2	S/T	IRE	CSKS-AQT0715B CSKS-AQT0715KR	2775.2	SignalChem (E32-11G)
FAM20C	FAM20C golgi associated secretory pathway kinase	NM_020223				Please inquire.		SignalChem (F18-11G)
FER	FER tyrosine kinase	NM_005246	FER	Y	Fer	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-139)
FES	FES proto-oncogene, tyrosine kinase	NM_002005	FES	Y	Fer	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-140)
FGFR1	fibroblast growth factor receptor 1	NM_000604	FGFR1	Y	FGFR	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-133)
FGFR2	fibroblast growth factor receptor 2	NM_022970.3	FGFR2	Y	FGFR	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-134)
FGFR3	fibroblast growth factor receptor 3	NM_000142	FGFR3	Y	FGFR	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-135)
FGFR3 [G697C]	fibroblast growth factor receptor 3	NM_000142	FGFR3	Y	FGFR	Please inquire.		Proqinase (1071-0000-1)
FGFR3 [K650E]	fibroblast growth factor receptor 3	NM_000142	FGFR3	Y	FGFR	Please inquire.		Carna (08-501)
FGFR3 [K650M]	fibroblast growth factor receptor 3	NM_000142	FGFR3	Y	FGFR	Please inquire.		Carna (08-199)
FGFR3 [V555L]	fibroblast growth factor receptor 3	NM_000142	FGFR3	Y	FGFR	Please inquire.		Carna (08-548)
FGFR3 [V555M]	fibroblast growth factor receptor 3	NM_000142	FGFR3	Y	FGFR	Please inquire.		Carna (08-543)
FGFR4	fibroblast growth factor receptor 4	NM_002011	FGFR4	Y	FGFR	Please inquire.		Carna (08-136)
FGR	FGR proto-oncogene, Src family tyrosine kinase	NM_005248	FGR	Y	Src	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-166)
FLT1	fms related tyrosine kinase 1	NM_002019	FLT1	Y	VEGFR	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-189)
FLT3	fms related tyrosine kinase 3	NM_004119	FLT3	Y	PDGFR	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-154)
FLT4	fms related tyrosine kinase 4	NM_002020	FLT4	Y	VEGFR	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-190)
FRK	fyn related Src family tyrosine kinase	NM_002031	FRK	Y	Src	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-167)
FYNa	FYN proto-oncogene, Src family tyrosine kinase	NM_002037	FYN	Y	Src	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-168)
FYNb	FYN proto-oncogene, Src family tyrosine kinase	NM_002037	FYN	Y	Src	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-531)
GAK	cyclin G associated kinase	NM_005255	GAK	S/T	NAK	Please inquire.		Please inquire.
GRK1 (RHOK)	G protein-coupled receptor kinase 1	NM_002929	RHOK	S/T	GRK	Please inquire.		SignalChem (R03-10G)
GRK2 (ADRBK1, BARK1)	G protein-coupled receptor kinase 2	NM_001619	BARK1	S/T	GRK	Please inquire.		Thermo (PV3361)
GRK3 (ADRBK2, BARK2)	G protein-coupled receptor kinase 3	NM_005160	BARK2	S/T	GRK	Please inquire.		Carna (01-112)
GRK4 (GPRK4)	G protein-coupled receptor kinase 4	NM_005307	GPRK4	S/T	GRK	CSKS-AQT0641B CSKS-AQT0641KR	3339.6	Carna (01-313)
GRK5 (GPRK5)	G protein-coupled receptor kinase 5	NM_005308	GPRK5	S/T	GRK	CSKS-AQT0641B CSKS-AQT0641KR	3339.6	INVT (PV3824)
GRK6 (GPRK6)	G protein-coupled receptor kinase 6	NM_002082	GPRK6	S/T	GRK	CSKS-AQT0641B CSKS-AQT0641KR	3339.6	Please inquire.
GRK7 (GPRK7)	G protein-coupled receptor kinase 7	NM_139209	GPRK7	S/T	GRK	CSKS-AQT0641B CSKS-AQT0641KR	3339.6	Carna (01-316)
GSK3A (GSK3α)	glycogen synthase kinase 3 alpha	NM_019884	GSK3A	S/T	GSK	Please inquire.		Carna (04-140)
GSK3B (GSK3β)	glycogen synthase kinase 3 beta	NM_00114615 6	GSK3B	S/T	GSK	Please inquire.		Carna (04-141)
HASPIN	histone H3 associated protein kinase	NM_031965	Haspin	S/T	Haspin	CSKS-AQT0798B CSKS-AQT0798KR	1827.1	Carna (05-111)

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HCK	HCK proto-oncogene, Src family tyrosine kinase	NM_002110	HCK	Y	Src	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-169)
HIPK1	homeodomain interacting protein kinase 1	NM_152696	HIPK1	S/T	DYRK	Please inquire.		Carna (04-135)
HIPK2	homeodomain interacting protein kinase 2	NM_022740	HIPK2	S/T	DYRK	Please inquire.		Carna (04-136)
HIPK3	homeodomain interacting protein kinase 3	NM_005734	HIPK3	S/T	DYRK	Please inquire.		Carna (04-137)
HIPK4	homeodomain interacting protein kinase 4	NM_144685	HIPK4	S/T	DYRK	Please inquire.		Carna (04-138)
HUNK	hormonally up-regulated Neu-associated kinase	NM_014586	HUNK	S/T	CAMKL	Please inquire.		Please inquire.
ICK	intestinal cell kinase	NM_014920	ICK	S/T	RCK	CSKS-AQT0257B CSKS-AQT0257KR	2011.4	Carna (04-156)
IGF1R	insulin-like growth factor 1 receptor	NM_000875	IGF1R	Y	InsR	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-141)
IKKB (IKK β)	inhibitor of nuclear factor kappa B kinase subunit beta	NM_001556	IKK β	S/T	IKK	Please inquire.		Carna (05-084)
IKKE (IKK ϵ)	inhibitor of nuclear factor kappa B kinase subunit epsilon	NM_014002	IKK ϵ	S/T	IKK	Please inquire.		Thermo (PV4875)
INSR (IR)	insulin receptor	NM_000208	INSR	Y	InsR	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-142)
INSRR (IRR)	insulin receptor-related receptor	NM_014215	IRR	Y	InsR	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-143)
IRAK1	interleukin 1 receptor associated kinase 1	NM_001569	IRAK1	S/T	IRAK	CSKS-AQT0326B CSKS-AQT0326KR	2079.5	Carna (09-101)
IRAK4	interleukin 1 receptor associated kinase 4	NM_016123	IRAK4	S/T	IRAK	CSKS-AQT0326B CSKS-AQT0326KR	2079.5	Carna (09-145)
ITK	IL2-inducible T cell kinase	NM_005546	ITK	Y	Tec	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Thermo (PV3875)
JAK1 [JH1]	Janus kinase 1	NM_002227	JAK1	Y	Jak	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Thermo (PV4774)
JAK1 [JH1-JH2]	Janus kinase 1	NM_002227	JAK1	Y	Jak	Please inquire.		SignalChem (J01-11G)
JAK2 [JH1]	Janus kinase 2	NM_004972	JAK2	Y	Jak	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-045)
JAK2 [JH1-JH2]	Janus kinase 2	NM_004972	JAK2	Y	Jak	Please inquire.		Carna (08-514)
JAK3 [JH1]	Janus kinase 3	NM_000215	JAK3	Y	Jak	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-046)
KDR (VEGFR2)	kinase insert domain receptor	NM_002253	KDR	Y	VEGFR	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-191)
KIT	KIT proto-oncogene receptor tyrosine kinase	NM_000222	KIT	Y	PDGFR	Please inquire.		Carna (08-156)
KSR1	kinase suppressor of ras 1	NM_014238	KSR1	S/T	RAF	Please inquire.		SignalChem (K07-11BG)
KSR2	kinase suppressor of ras 2	NM_173598	KSR2	S/T	RAF	Please inquire.		SignalChem (K01-11G)
LATS1	large tumor suppressor kinase 1	NM_004690	LATS1	S/T	NDR	Please inquire.		Carna (01-523)
LATS2	large tumor suppressor kinase 2	NM_014572	LATS2	S/T	NDR	CSKS-AQT0476B CSKS-AQT0476KR	2349.7	Carna (01-524)
LCK	LCK proto-oncogene, Src family tyrosine kinase	NM_005356	LCK	Y	Src	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-170)
LIMK1	LIM domain kinase 1	NM_002314	LIMK1	S/T	LISK	Please inquire.		Please inquire.
LIMK2	LIM domain kinase 2	CR456513	LIMK2	S/T	LISK	Please inquire.		Please inquire.
LRRK2	leucine rich repeat kinase 2	NM_198578	LRRK2	S/T	LRRK	Please inquire.		Invitrogen (PV48783)
LRRK2 (R1441G)	leucine rich repeat kinase 2	NM_198578	LRRK2	S/T	LRRK	Please inquire.		SignalChem (L10-12BG)
LRRK2 (R1441H)	leucine rich repeat kinase 2	NM_198578	LRRK2	S/T	LRRK	Please inquire.		SignalChem (L10-12CG)
LRRK2 [G2019S]	leucine rich repeat kinase 2	NM_198578	LRRK2	S/T	LRRK	Please inquire.		SignalChem (L10-12GG)
LTK	leukocyte receptor tyrosine kinase	NM_002344	LTK	Y	ALK	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-106)
LYNa	LYN proto-oncogene, Src family tyrosine kinase	NM_002350	LYN	Y	Src	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-171)

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LYNb	LYN proto-oncogene, Src family tyrosine kinase	NM_002350	LYN	Y	Src	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-172)
MAK	male germ cell associated kinase	NM_005906	MAK	S/T	RCK	CSKS-AQT0257B CSKS-AQT0257KR	2011.4	SignalChem (M01-10G)
MAP2K1 (MEK1)	mitogen-activated protein kinase kinase 1	NM_002755	MAP2K1	Dual Specificity	STE7	Please inquire.		Carna (07-141)
MAP2K2 (MEK2)	mitogen-activated protein kinase kinase 2	NM_030662	MAP2K2	Dual Specificity	STE7	Please inquire.		Carna (07-142)
MAP2K3 (MEK3)	mitogen-activated protein kinase kinase 3	NM_002756	MAP2K3	Dual Specificity	STE7	Please inquire.		Please inquire.
MAP2K4 (MEK4)	mitogen-activated protein kinase kinase 4	NM_003010	MAP2K4	Dual Specificity	STE7	Please inquire.		Please inquire.
MAP3K1 (MEKK1)	mitogen-activated protein kinase kinase kinase 1	NM_005921	MAP3K1	S/T	STE11	Please inquire.		Carna (07-103)
MAP3K2 (MEKK2)	mitogen-activated protein kinase kinase kinase 2	NM_006609	MAP3K2	S/T	STE11	Please inquire.		SignalChem (M10-10G)
MAP3K3 (MEKK3)	mitogen-activated protein kinase kinase kinase 3	NM_002401	MAP3K3	S/T	STE11	Please inquire.		Carna (07-105)
MAP3K5 (ASK1)	mitogen-activated protein kinase kinase kinase 5	NM_005923	MAP3K5	S/T	STE11	CSKS-AQT0557B CSKS-AQT0557KR	2120.5	SignalChem (M13-10G)
MAP3K6 (ASK2)	mitogen-activated protein kinase kinase kinase 6	NM_004672	ASK2	S/T	STE11	Please inquire.		Please inquire.
MAP3K7 (TAK1)	mitogen-activated protein kinase kinase kinase 7	NM_145333; NM_003188	TAK1	S/T	MLK	CSKS-AQT0356B CSKS-AQT0356KR	3140.6	Please inquire.
MAP3K8 (Tpl2, COT)	mitogen-activated protein kinase kinase kinase 8	NM_005204	COT	S/T	STE-Unique	CSKS-AQT0716B CSKS-AQT0716KR	2697.1	Carna (07-301)
MAP3K9 (MLK1)	mitogen-activated protein kinase kinase kinase 9	NM_033141	MLK1	S/T	MLK	CSKS-AQT0645B CSKS-AQT0645KR	2778.3	Carna (09-115)
MAP3K10 (MLK2)	mitogen-activated protein kinase kinase kinase 10	NM_002446	MLK2	S/T	MLK	CSKS-AQT0646B CSKS-AQT0646KR	2769.3	Please inquire.
MAP3K11 (MLK3)	mitogen-activated protein kinase kinase kinase 11	NM_002419	MLK3	S/T	MLK	CSKS-AQT0646B CSKS-AQT0646KR	2769.3	Carna (09-017)
MAP3K12 (DLK)	mitogen-activated protein kinase kinase kinase 12	NM_006301	DLK	S/T	MLK	Please inquire.		Please inquire.
MAP3K13 (LZK)	mitogen-activated protein kinase kinase kinase 13	NM_004721	LZK	S/T	MLK	Please inquire.		Please inquire.
MAP3K14 (NIK)	mitogen-activated protein kinase kinase kinase 14	NM_003954	NIK	S/T	STE-Unique	CSKS-AQT0912B CSKS-AQT0912KR	2653.1	Please inquire.
MAP3K19 (YSK4)	mitogen-activated protein kinase kinase kinase 19	NM_025052	YSK4	S/T	STE11	CSKS-AQT0742B CSKS-AQT0742KR	2242.7	SignalChem (Y06-11G)
MAP3K20 (MLK7, ZAK)	mitogen-activated protein kinase kinase kinase 20	NM_016653	ZAK	S/T	MLK	CSKS-AQT0742B CSKS-AQT0742KR	2242.7	Carna (09-120)
MAP3K21 (MLK4)	mitogen-activated protein kinase kinase kinase 21	NM_032435	MLK4	S/T	MLK	CSKS-AQT0918B CSKS-AQT0918KR	2554.0	Please inquire.
MAP4K1 (HPK1)	mitogen-activated protein kinase kinase kinase 1	NM_007181	HPK1	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	Thermo (PV6355)
MAP4K2 (GCK)	mitogen-activated protein kinase kinase kinase 2	NM_004579	GCK	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	SignalChem (M24-10G)
MAP4K3 (GLK, KHS2)	mitogen-activated protein kinase kinase kinase 3	NM_003618	KHS2	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	SignalChem (M25-11G)
MAP4K4 (HGK, ZC1)	mitogen-activated protein kinase kinase kinase 4	NM_004834	ZC1/HGK	S/T	STE20	CSKS-AQT0135B CSKS-AQT0135KR	2563.9	Carna (07-137)
MAP4K5 (KHS1)	mitogen-activated protein kinase kinase kinase 5	NM_006575	KHS1	S/T	STE20	CSKS-AQT0178B CSKS-AQT0178KR	1434.7	SignalChem (M27-10G)
MAPK1 (ERK2)	mitogen-activated protein kinase 1	NM_002745	ERK2	S/T	MAPK	CSKS-AQT0651B CSKS-AQT0651KR	2206.6	Carna (04-143)
MAPK3 (ERK1)	mitogen-activated protein kinase 3	NM_002746	Erk1	S/T	MAPK	CSKS-AQT0650B CSKS-AQT0650KR	2270.7	Carna (04-142)
MAPK6 (ERK3)	mitogen-activated protein kinase 6	NM_002748	Erk3	S/T	MAPK	Please inquire.		Please inquire.
MAPK7 (ERK5)	mitogen-activated protein kinase 7	NM_002749	Erk5	S/T	MAPK	Please inquire.		Carna (04-146)
MAPK8 (JNK1)	mitogen-activated protein kinase 8	NM_002750	JNK1	S/T	MAPK	CSKS-AQT0376B CSKS-AQT0376KR	3114.8	Carna (04-163)
MAPK9 (JNK2)	mitogen-activated protein kinase 9	NM_002752	JNK2	S/T	MAPK	CSKS-AQT0376B CSKS-AQT0376KR	3114.8	Carna (04-164)
MAPK10 (JNK3)	mitogen-activated protein kinase 10	NM_002753	JNK3	S/T	MAPK	CSKS-AQT0376B CSKS-AQT0376KR	3114.8	Carna (04-150)

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MAPK11 (p38β)	mitogen-activated protein kinase 11	NM_002751	p38b	S/T	MAPK	CSKS-AQT0490B CSKS-AQT0490KR	2089.4	Carna (04-153)
MAPK12 (p38γ)	mitogen-activated protein kinase 12	NM_002969	p38g	S/T	MAPK	CSKS-AQT0649B CSKS-AQT0649KR	2230.5	Carna (04-155)
MAPK13 (p38δ)	mitogen-activated protein kinase 13	NM_002754	p38d	S/T	MAPK	CSKS-AQT0649B CSKS-AQT0649KR	2230.5	Carna (04-154)
MAPK14 (p38α)	mitogen-activated protein kinase 14	NM_001315	p38a	S/T	MAPK	CSKS-AQT0649B CSKS-AQT0649KR	2230.5	Carna (04-152)
MAPK15 (ERK7)	mitogen-activated protein kinase 15	NM_139021	Erk7	S/T	MAPK	CSKS-AQT0374B CSKS-AQT0374KR	3570.3	Please inquire.
MAPKAPK2 (MK2)	MAPK activated protein kinase 2	NM_004759	MAPKAPK2	S/T	MAPKAPK	CSKS-AQT0701B CSKS-AQT0701KR	1692.0	Carna (02-142)
MAPKAPK3 (MK3)	MAPK activated protein kinase 3	NM_004635	MAPKAPK3	S/T	MAPKAPK	CSKS-AQT0701B CSKS-AQT0701KR	1692.0	Carna (02-143)
MAPKAPK5 (MK5)	MAPK activated protein kinase 5	NM_003668	MAPKAPK5	S/T	MAPKAPK	CSKS-AQT0701B CSKS-AQT0701KR	1692.0	Carna (02-144)
MARK1	microtubule affinity regulating kinase 1	NM_018650	MARK1	S/T	CAMKL	CSKS-AQT0393B CSKS-AQT0393KR	2582.0	Carna (02-120)
MARK2	microtubule affinity regulating kinase 2	NM_004954	MARK2	S/T	CAMKL	CSKS-AQT0393B CSKS-AQT0393KR	2582.0	Carna (02-121)
MARK3	microtubule affinity regulating kinase 3	NM_002376	MARK3	S/T	CAMKL	CSKS-AQT0393B CSKS-AQT0393KR	2582.0	Carna (02-122)
MARK4	microtubule affinity regulating kinase 4	NM_031417	MARK4	S/T	CAMKL	CSKS-AQT0393B CSKS-AQT0393KR	2582.0	Carna (02-123)
MAST3	microtubule associated serine/threonine kinase 3	NM_015016	MAST3	S/T	MAST	Please inquire.		Please inquire.
MASTL	microtubule associated serine/threonine kinase-like	NM_032844	MASTL	S/T	MAST	CSKS-AQT0703B CSKS-AQT0703KR	2752.2	SignalChem (M72-10G)
MATK (CTK)	megakaryocyte-associated tyrosine-protein kinase	NM_139355	MATK	Y	Csk	Please inquire.		Please inquire.
MELK	maternal embryonic leucine zipper kinase	NM_014791	MELK	S/T	CAMKL	Please inquire.		Carna (02-124)
MERTK (MER)	MER proto-oncogene, tyrosine kinase	NM_006343	MER	Y	Axl	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-108)
MET (c-MET, HGFR)	MET proto-oncogene, receptor tyrosine kinase	NM_000245	MET	Y	Met	CSKS-AQT0658B CSKS-AQT0658KR	1366.6	Carna (08-151)
MET (Y1230H)	MET proto-oncogene, receptor tyrosine kinase	NM_000245	MET	Y	Met	Please inquire.		Carna (08-178)
MINK1 (ZC3)	misshapen-like kinase 1	NM_015716	ZC3/MINK	S/T	STE20	CSKS-AQT0183B CSKS-AQT0183KR	1354.7	SignalChem (M53-11G)
MKNK1 (MNK1)	MAPK interacting serine/threonine kinase 1	NM_003684	MNK1	S/T	MAPKAPK	CSKS-AQT0414B CSKS-AQT0414KR	1398.7	Carna (02-145)
MKNK2 (MNK2)	MAPK interacting serine/threonine kinase 2	NM_017572	MNK2	S/T	MAPKAPK	CSKS-AQT0701B CSKS-AQT0701KR	1692.0	Carna (02-146)
MST1R (RON)	macrophage stimulating 1 receptor	NM_016542	RON	Y	Met	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-152)
MTOR (FRAP)	mechanistic target of rapamycin kinase	NP_004949	FRAP	S/T	PIKK	Please inquire.		Please inquire.
MUSK	muscle associated receptor tyrosine kinase	NM_005592	MUSK	Y	Musk	CSKS-AQT0031B CSKS-AQT0031KR	1987.4	Carna (08-153)
MYLK (MLCK)	myosin light chain kinase	NM_053025	smMLCK	S/T	MLCK	CSKS-AQT0151B CSKS-AQT0151KR-1	2342.5	SignalChem (M62-11G)
MYLK2	myosin light chain kinase 2	NM_033118	skMLCK	S/T	MLCK	Please inquire.		SignalChem (M63-10H)
MYLK3 (caMLCK)	myosin light chain kinase 3	NM_182493	caMLCK	S/T	MLCK	Please inquire.		Please inquire.
MYLK4 (SgK085)	myosin light chain kinase family member 4	NM_001012418	SgK085	S/T	MLCK	CSKS-AQT0151B CSKS-AQT0151KR	2342.5	Please inquire.
MYO3A	myosin IIIA	NM_017433	MYO3A	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	SignalChem (M65-11G)
MYO3B	myosin IIIB	NM_138995	MYO3B	S/T	STE20	CSKS-AQT0135B CSKS-AQT0135KR	2563.9	SignalChem (M66-11G)
NEK1	NIMA related kinase 1	NM_012224	NEK1	S/T	NEK	CSKS-AQT0418B CSKS-AQT0418KR	1450.8	Carna (05-123)
NEK2	NIMA related kinase 2	NM_002497	NEK2	S/T	NEK	Please inquire.		Carna (05-226)
NEK3	NIMA related kinase 3	NM_002498	NEK3	S/T	NEK	Please inquire.		Carna (05-127)

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NEK4	NIMA related kinase 4	NM_003157	NEK4	S/T	NEK	Please inquire.		Carna (05-128)
NEK5	NIMA related kinase 5	XM_292160	NEK5	S/T	NEK	CSKS-AQT0418B CSKS-AQT0418KR	1450.8	SignalChem (N07-11G)
NEK6	NIMA related kinase 6	NM_014397	NEK6	S/T	NEK	CSKS-AQT0418B CSKS-AQT0418KR	1450.8	Carna (05-130)
NEK7	NIMA related kinase 7	NM_133494	NEK7	S/T	NEK	Please inquire.		Carna (05-131)
NEK8	NIMA related kinase 8	NM_017810	NEK8	S/T	NEK	CSKS-AQT0349B CSKS-AQT0349KR	2673.15	Please inquire.
NEK9	NIMA related kinase 9	NM_033116	NEK9	S/T	NEK	Please inquire.		Carna (05-133)
NEK10	NIMA related kinase 10	NM_152534	NEK10	S/T	NEK	Please inquire.		SignalChem (N12-11G)
NEK11	NIMA related kinase 11	NM_002497	NEK11	S/T	NEK	Please inquire.		Please inquire.
NIM1 (NIM1K)	NIM1 serine/threonine protein kinase	NM_153361	NIM1	S/T	CAMKL	CSKS-AQT0694B CSKS-AQT0694KR	1,466.78	SignalChem (N14-10G)
NLK (LAK1)	nemo like kinase	NM_016231	NLK	S/T	MAPK	CSKS-AQT0374B CSKS-AQT0374KR	3,570.28	Carna (04-151)
NTRK1 (TRKA)	neurotrophic receptor tyrosine kinase 1	NM_002529	TRKA	Y	Trk	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-186)
NTRK2 (TRKB)	neurotrophic receptor tyrosine kinase 2	NM_006180	TRKB	Y	Trk	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-187)
NTRK3 (TRKC)	neurotrophic receptor tyrosine kinase 3	NM_002530	TRKC	Y	Trk	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-197)
NUAK1 (ARK5)	NUAK family kinase 1	NM_014840	NuaK1	S/T	CAMKL	CSKS-AQT0395B CSKS-AQT0395KR	1743.0	Carna (02-126)
NUAK2 (SNARK)	NUAK family kinase 2	NM_030952	NuaK2	S/T	CAMKL	CSKS-AQT0395B CSKS-AQT0395KR	1743.0	Carna (02-127)
PAK1	p21 (RAC1) activated kinase 1	NM_002576	PAK1	S/T	STE20	CSKS-AQT0838B CSKS-AQT0838KR	1424.6	Carna (07-123)
PAK2	p21 (RAC1) activated kinase 2	NM_002577	PAK2	S/T	STE20	CSKS-AQT0839B CSKS-AQT0839KR	1521.7	Carna (07-124)
PAK3	p21 (RAC1) activated kinase 3	NM_002578	PAK3	S/T	STE20	CSKS-AQT0845B CSKS-AQT0845KR	1936.2	Carna (07-125)
PAK4	p21 (RAC1) activated kinase 4	NM_005884	PAK4	S/T	STE20	CSKS-AQT0840B CSKS-AQT0840KR	1537.8	INVT (PV4212)
PAK5 (PAK7)	p21 (RAC1) activated kinase 5	NM_020341	PAK5	S/T	STE20	CSKS-AQT0840B CSKS-AQT0840KR	1537.8	SignalChem (P07-10G)
PAK6	p21 (RAC1) activated kinase 6	NM_020168	PAK6	S/T	STE20	CSKS-AQT0840B CSKS-AQT0840KR	1537.8	Carna (07-128)
PASK	PAS domain containing serine/threonine kinase	NM_015148	PASK	S/T	CAMKL	CSKS-AQT0694B CSKS-AQT0694KR	1,466.78	Carna(02-128)
PBK (TOPK)	PDZ binding kinase	NM_018492	PBK	S/T	TOPK	CSKS-AQT0766B CSKS-AQT0766KR	2525.0	Invitrogen (PV4130)
PDGFRa (PDGFRα)	platelet derived growth factor receptor alpha	NM_006206	PDGFRa	Y	PDGFR	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-157)
PDGFRβ (PDGFRβ)	platelet derived growth factor receptor beta	NM_002609	PDGFRb	Y	PDGFR	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-158)
PDK1 (PDHK1)	pyruvate dehydrogenase kinase 1	NM_002610; NM_002613	PDHK1	S/T	PDHK	Please inquire.		SignalChem (P57-10G)
PDK2 (PDHK2)	pyruvate dehydrogenase kinase 2	NM_002611	PDHK2	S/T	PDHK	Please inquire.		SignalChem (P58-10G)
PDK3 (PDHK3)	pyruvate dehydrogenase kinase 3	NM_005391	PDHK3	S/T	PDHK	Please inquire.		SignalChem (P59-10G)
PDK4 (PDHK4)	pyruvate dehydrogenase kinase 4	NM_002612	PDHK4	S/T	PDHK	Please inquire.		SignalChem (P60-10G)
PDPK1 (PDK1)	3-phosphoinositide dependent protein kinase 1	NM_002610; NM_002613	PDHK1	S/T	PDHK	CSKS-AQT0126B CSKS-AQT0126KR	1563.8	SignalChem (P14-10H)
PHK1	phosphorylase kinase catalytic subunit gamma 1	NM_006213	PHK1	S/T	PHK	Please inquire.		Carna (02-152)
PHK2	phosphorylase kinase catalytic subunit gamma 2	NM_000294	PHK2	S/T	PHK	Please inquire.		Carna (02-153)
PIM1	Pim-1 proto-oncogene, serine/threonine kinase	NM_002648	PIM1	S/T	PIM	CSKS-AQT0474B CSKS-AQT0474KR	1331.6	Carna (02-054)
PIM2	Pim-2 proto-oncogene, serine/threonine kinase	NM_006875	PIM2	S/T	PIM	CSKS-AQT0230B CSKS-AQT0230KR	1393.6	Carna (02-155)
PIM3	Pim-3 proto-oncogene, serine/threonine kinase	NM_00100185 2.2	PIM3	S/T	PIM	CSKS-AQT0474B CSKS-AQT0474KR	1331.6	Carna (02-156)

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PINK1 (PINK)	PTEN induced kinase 1	NM_032409	PINK1	S/T	NKF2	Please inquire.		Boston Bio (AP-182)
PKMYT1 (MYT1)	Protein kinase, membrane associated tyrosine/threonine 1	NP_004194	MYT1	S/T	WEE	Please inquire.		Please inquire.
PKN1	protein kinase N1	NM_002741	PKN1	S/T	PKN	CSKS-AQT0509B CSKS-AQT0509KR	2067.4	Carna (01-144)
PKN2	protein kinase N2	NM_006256	PKN2	S/T	PKN	CSKS-AQT0462B CSKS-AQT0462KR	1648.0	Carna (01-145)
PKN3	protein kinase N3	NM_013355	PKN3	S/T	PKN	CSKS-AQT0509B CSKS-AQT0509KR	2067.4	Carna (01-146)
PLK1	polo like kinase 1	NM_005030	PLK1	S/T	PLK	Please inquire.		INVT (PV3501)
PLK2	polo like kinase 2	NM_006622	PLK2	S/T	PLK	Please inquire.		Please inquire.
PLK3	polo like kinase 3	NM_004073	PLK3	S/T	PLK	Please inquire.		INVT (PV3812)
PLK4	polo like kinase 4	NM_014264	PLK4	S/T	PLK	CSKS-AQT0898B CSKS-AQT0898KR	2565.0	INVT (PV6394)
PNCK (CAMK1β)	pregnancy up-regulated nonubiquitous CaM kinase	NM_00103958 2	CaMK1b	S/T	CAMK1	CSKS-AQT0420B CSKS-AQT0420KR-1	1821.2	Carna (02-105)
PRKAA1-B1-G1 (AMPKα1β1γ1)	protein kinase AMP-activated catalytic subunit alpha 1	NM_006251	AMPKα1	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	Carna (02-113)
PRKAA1-B1-G2 (AMPKα1β1γ2)	protein kinase AMP-activated catalytic subunit alpha 1	NM_006251	AMPKα1	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	SignalChem (P55-10G)
PRKAA1-B1-G3 (AMPKα1β1γ3)	protein kinase AMP-activated catalytic subunit alpha 1	NM_006251	AMPKα1	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	SignalChem (P56-10H)
PRKAA1-B2-G1 (AMPKα1β2γ1)	protein kinase AMP-activated catalytic subunit alpha 1	NM_006251	AMPKα1	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	Carna (02-147)
PRKAA1-B2-G2 (AMPKα1β2γ2)	protein kinase AMP-activated catalytic subunit alpha 1	NM_006251	AMPKα1	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	SignalChem (P45-10G)
PRKAA1-B2-G3 (AMPKα1β2γ3)	protein kinase AMP-activated catalytic subunit alpha 1	NM_006251	AMPKα1	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	SignalChem (P83-10G)
PRKAA2-B1-G1 (AMPKα2β1γ1)	protein kinase AMP-activated catalytic subunit alpha 2	NM_006252	AMPKα2	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	Carna (02-114)
PRKAA2-B1-G2 (AMPKα2β1γ2)	protein kinase AMP-activated catalytic subunit alpha 2	NM_006252	AMPKα2	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	SignalChem (P84-10GH)
PRKAA2-B1-G3 (AMPKα2β1γ3)	protein kinase AMP-activated catalytic subunit alpha 2	NM_006252	AMPKα2	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	SignalChem (P85-10GH)
PRKAA2-B2-G1 (AMPKα2β2γ1)	protein kinase AMP-activated catalytic subunit alpha 2	NM_006252	AMPKα2	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	Carna (02-148)
PRKAA2-B2-G2 (AMPKα2β2γ2)	protein kinase AMP-activated catalytic subunit alpha 2	NM_006252	AMPKα2	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	SignalChem (P54-10H)
PRKAA2-B2-G3 (AMPKα2β2γ3)	protein kinase AMP-activated catalytic subunit alpha 2	NM_006252	AMPKα2	S/T	CAMKL	CSKS-AQT0420B CSKS-AQT0420KR-4	1821.2	SignalChem (P46-10GH)
PRKACA (PKACα)	protein kinase cAMP-activated catalytic subunit alpha	NM_002730	PKACα	S/T	PKA	CSKS-AQT0458B CSKS-AQT0458KR	1123.4	Carna (01-127)
PRKACB (PKACβ)	protein kinase cAMP-activated catalytic subunit beta	NM_002731	PKACβ	S/T	PKA	CSKS-AQT0458B CSKS-AQT0458KR	1123.4	Carna (01-128)
PRKACG (PKACG, PKACγ)	protein kinase cAMP-activated catalytic subunit gamma	NM_002732	PKACγ	S/T	PKA	CSKS-AQT0231B CSKS-AQT0231KR	1370.6	SignalChem (P53-10G)
PRKCA (PKCα)	protein kinase C alpha	NM_002737	PKCα	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-133)
PRKCB1 (PKCβ1)	protein kinase C beta	NM_002738	PKCβ	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-134)

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PRKCB2 (PKCβ2)	protein kinase C beta	X07109	PKCb	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-165)
PRKCD (PKCδ)	protein kinase C delta	NM_006254	PKCd	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-135)
PRKCE (PKCe)	protein kinase C epsilon	NM_005400	PKCe	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-136)
PRKCG (PKCγ)	protein kinase C gamma	NM_002739	PKCg	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-137)
PRKCH (PKCη)	protein kinase C eta	NM_006255	PKCh	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-138)
PRKCI (PKCι)	protein kinase C iota	NM_002740	PKCi	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-139)
PRKCQ (PKCθ)	protein kinase C theta	NM_006257	PKCt	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-140)
PRKCZ (PKCζ)	protein kinase C zeta	NM_002744	PKCz	S/T	PKC	CSKS-AQT0462B CSKS-AQT0462KR-5	1648.0	Carna (01-141)
PRKD1 (PKD1)	protein kinase D1	NM_002742	PKD1	S/T	PKD	CSKS-AQT0694B CSKS-AQT0694KR	1466.8	Carna (02-157)
PRKD2 (PKD2)	protein kinase D2	NM_016457	PKD2	S/T	PKD	CSKS-AQT0694B CSKS-AQT0694KR	1466.8	Carna (02-158)
PRKD3 (PKD3)	protein kinase D3	NM_005813	PKD3	S/T	PKD	CSKS-AQT0694B CSKS-AQT0694KR	1466.8	Carna (02-159)
PRKDC (DNA-PK)	protein kinase, DNA-activated, catalytic subunit	NM_006904	DNAPK	S/T	PIKK	Please inquire.		Thermo (PV5866)
PRKG1 (PKG1, PGK)	protein kinase cGMP-dependent I	NM_006258	DNAPK	S/T	PIKK	CSKS-AQT0324B CSKS-AQT0324KR-7	1863.3	Carna (01-142)
PRKG2 (PKG2, PGK2, CGK2)	protein kinase cGMP-dependent II	NM_006259	PKG2	S/T	PKG	Please inquire.		Carna (01-143)
PRKX	protein kinase cAMP-dependent X-linked catalytic subunit	NM_005044	PRKX	S/T	PKA	CSKS-AQT0186B CSKS-AQT0186KR	1398.7	Carna (01-130)
PTK2 (FAK)	protein tyrosine kinase 2	NM_153831	FAK	Y	FAK	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-137)
PTK2B (PYK2)	protein tyrosine kinase 2 beta	NM_004103	PYK2	Y	FAK	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-138)
PTK6 (BRK)	protein tyrosine kinase 6	NM_005975	BRK	Y	Src	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-165)
RAF1 (Y340E/Y341E)	Raf-1 proto-oncogene, serine/threonine kinase	NM_002880	RAF1	S/T	RAF	CSKS-AQT0688B CSKS-AQT0688KR	2688.0	SignalChem (R01-13G-10)
BCR RET (fusion)						Please inquire.		SignalChem (R02-19EG)
RET	ret proto-oncogene	NM_020975	RET	Y	Ret	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-159)
RET [G691S]	ret proto-oncogene	NM_020975	RET	Y	Ret	Please inquire.		Carna (08-522)
RET [M918T]	ret proto-oncogene	NM_020975	RET	Y	Ret	Please inquire.		Carna (08-508)
RET [S891A]	ret proto-oncogene	NM_020975	RET	Y	Ret	Please inquire.		Carna (08-523)
RET [Y791F]	ret proto-oncogene	NM_020975	RET	Y	Ret	Please inquire.		Carna (08-521)
RET:CCDC6 (CCDC6-RET)	ret proto-oncogene	NM_020975	RET	Y	Ret	Please inquire.		SignalChem (R02-19BG)
RIPK1	receptor interacting serine/threonine kinase 1	NM_003840	RIPK1	S/T	RIPK	Please inquire.		Please inquire.
RIPK2	receptor interacting serine/threonine kinase 2	NM_003821	RIPK2	S/T	RIPK	CSKS-AQT0205B CSKS-AQT0205KR-8	3110.6	SignalChem (R08-11G)
RIPK3	receptor interacting serine/threonine kinase 3	NM_006871	RIPK3	S/T	RIPK	Please inquire.		Please inquire.
ROCK1	Rho associated coiled-coil containing protein kinase 1	NM_005406	ROCK1	S/T	DMPK	CSKS-AQT0537B CSKS-AQT0537KR	1509.8	Carna (01-109)

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ROCK2	Rho associated coiled-coil containing protein kinase 2	NM_004850	ROCK2	S/T	DMPK	CSKS-AQT0421B CSKS-AQT0421KR	1464.8	Carna (01-110)
ROS1 (ROS)	ROS proto-oncogene 1, receptor tyrosine kinase	NM_002944	ROS	Y	Sev	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-163)
ROS1 [G2032R]	ROS proto-oncogene 1, receptor tyrosine kinase	NM_002944	ROS	Y	Sev	Please inquire.		SignalChem (R14-12BG)
RPS6KA1 (RSK1)	ribosomal protein S6 kinase A1	NM_002953	RSK3	S/T	RSK	CSKS-AQT0535B CSKS-AQT0535KR	1945.2	Carna (01-149)
RPS6KA2 (RSK3)	ribosomal protein S6 kinase A2	NM_021135	RSK1	S/T	RSK	CSKS-AQT0535B CSKS-AQT0535KR	1945.2	Carna (01-151)
RPS6KA3 (RSK2)	ribosomal protein S6 kinase A3	NM_004586	RSK2	S/T	RSK	CSKS-AQT0233B CSKS-AQT0233KR	1488.7	Carna (01-150)
RPS6KA4(MSK2)	ribosomal protein S6 kinase A4	NM_003942	MSK2	S/T	RSK	Please inquire.		Carna (01-148)
RPS6KA5 (MSK1)	ribosomal protein S6 kinase A5	NM_004755	MSK1	S/T	RSK	Please inquire.		Carna (01-147)
RPS6KA6 (RSK4)	ribosomal protein S6 kinase A6	NM_014496	RSK4	S/T	RSK	CSKS-AQT0232B CSKS-AQT0232KR	1666.0	Carna (01-152)
RPS6KB1 (p70S6K)	ribosomal protein S6 kinase B1	NM_003161	p70S6K	S/T	RSK	CSKS-AQT0535B CSKS-AQT0535KR	1945.2	Carna (01-158)
RPS6KB2 (p70S6KB)	ribosomal protein S6 kinase B2	NM_003952	p70S6Kb	S/T	RSK	CSKS-AQT0231B CSKS-AQT0231KR	1370.6	SignalChem (R22-10G)
SBK1 (SBK)	SH3 domain binding kinase 1	NM_00102440 1	SBK	S/T	NKF1	Please inquire.		SignalChem (S56-10G)
SGK1 (SGK)	serum/glucocorticoid regulated kinase 1	NM_005627	SGK	S/T	SGK	CSKS-AQT0566B CSKS-AQT0566KR	1295.4	Carna (01-158)
SGK2	serum/glucocorticoid regulated kinase 2	NM_016276	SGK2	S/T	SGK	CSKS-AQT0566B CSKS-AQT0566KR	1295.4	Carna (01-159)
SGK3	serum/glucocorticoid regulated kinase family member 3	NM_013257	SGK3	S/T	SGK	CSKS-AQT0566B CSKS-AQT0566KR	1295.4	Carna (01-160)
SIK1 (SIK)	salt inducible kinase 1	NM_173354	SIK	S/T	CAMKL	CSKS-AQT0508B CSKS-AQT0508KR	2040.4	Carna (02-131)
SIK2 (QIK)	salt inducible kinase 2	NM_015191	QIK	S/T	CAMKL	CSKS-AQT0508B CSKS-AQT0508KR	2040.4	Carna (02-129)
SIK3 (QSK)	salt inducible kinase 3	BC128510.1	QSK	S/T	CAMKL	CSKS-AQT0508B CSKS-AQT0508KR	2040.4	INVT (PV6403)
SLK	STE20 like kinase	NM_014720	SLK	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	Carna (07-129)
SNRK	SNF related kinase	NM_017719	SNRK	S/T	CAMKL	Please inquire.		SignalChem (S16-10G)
SRC	SRC proto-oncogene, non-receptor tyrosine kinase	NM_005417	SRC	Y	Src	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-173)
SRC N1	SRC proto-oncogene, non-receptor tyrosine kinase	NP_005408	SRC	Y	Src	Please inquire.		INVT (P2904)
SRMS (SRM)	SRC-related kinase lacking C-terminal regulatory tyrosine and N-terminal myristylation sites	NM_080823	SRM	Y	Src	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-174)
SRPK1	SRSF protein kinase 1	NM_003137	SRPK1	S/T	SRPK	CSKS-AQT0360B CSKS-AQT0360KR	2741.0	SignalChem (S21-10G)
SRPK2	SRSF protein kinase 2	NM_182692	SRPK2	S/T	SRPK	CSKS-AQT0360B CSKS-AQT0360KR	2741.0	Carna (04-161)
SRPK3 (MSSK1)	SRSF protein kinase 3	NM_014370	MSSK1	S/T	SRPK	CSKS-AQT0360B CSKS-AQT0360KR	2741.0	SignalChem (S41-10G)
STK3 (MST2)	serine/threonine kinase 3	NM_006281	MST2	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	Carna (07-117)
STK4 (MST1)	serine/threonine kinase 4	NM_006282	MST1	S/T	STE20	CSKS-AQT0135B CSKS-AQT0135KR	2563.9	SignalChem (S25-10G)
STK10 (LOK)	serine/threonine kinase 10	NM_005990	LOK	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	Carna (07-315)
STK11 (LKB1, AMPKK)	serine/threonine kinase 11	NM_000455	LKB1	S/T	CAMKL	CSKS-AQT0728B CSKS-AQT0728KR	2563.0	Carna (02-119)
STK16 (MPSK1, PKL12, TSF1)	serine/threonine kinase 16	NM_00100891 0	MPSK1	S/T	NAK	Please inquire.		Please inquire.
STK17A (DRAK1)	serine/threonine kinase 17a	NM_004760	DRAK1	S/T	DAPK	Please inquire.		Carna (02-137)
STK17B (DRAK2)	serine/threonine kinase 17b	NM_004226	DRAK2	S/T	DAPK	Please inquire.		SignalChem (S34-10G)
STK24 (MST3)	serine/threonine kinase 24	NM_003576	MST3	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	Carna (07-118)

HGNC (Common) Name	HGNC Approved Full Name	GenBank Acc.No.	Manning Name	Ser (S) Thr (T) Tyr (Y)	Family	Sensor Peptide Product Number (Bulk, Kit)	Sensor Peptide MW (g/mol)	Enzyme Used in Sensor Peptide Development
STK25 (YSK1)	serine/threonine kinase 25	NM_006374	YSK1	S/T	STE20	CSKS-AQT0505B CSKS-AQT0505KR	2183.6	Carna(07-136)
STK26 (MST4)	serine/threonine kinase 26	NM_016542	MST4	S/T	STE20	Please inquire.		Carna (07-119)
STK33	serine/threonine kinase 33	NM_030906	STK33	S/T	CAMK-Unique	CSKS-AQT0355B CSKS-AQT0355KR	2705.0	Please inquire.
STK38 (NDR1)	serine/threonine kinase 38	NM_007271	NDR1	S/T	NDR	CSKS-AQT0232B CSKS-AQT0232KR	1666.0	Carna (01-125)
STK38L (NDR2)	serine/threonine kinase 38 like	NM_015000	NDR2	S/T	NDR	CSKS-AQT0232B CSKS-AQT0232KR	1666.0	Carna (01-126)
SYK	spleen associated tyrosine kinase	NM_003177	SYK	Y	Syk	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-176)
TAOK1 (TAO1)	TAO kinase 1	NM_020791	TAO1	S/T	STE20	CSKS-AQT0253B CSKS-AQT0253KR	1443.8	SignalChem (T24-11G)
TAOK2 (TAO2)	TAO kinase 2	NM_016151	TAO2	S/T	STE20	CSKS-AQT0253B CSKS-AQT0253KR	1443.8	Carna (07-133)
TAOK3 (TAO3)	TAO kinase 3	NM_016281	TAO3	S/T	STE20	Please inquire.		SignalChem (T26-11G)
TBK1	TANK binding kinase 1	NM_013254	TBK1	S/T	IKK	CSKS-AQT0897B CSKS-AQT0897KR	2573.9	Carna (05-115)
TEC	tec protein tyrosine kinase	NM_003215	TEC	Y	Tec	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-182)
TEK (TIE2)	TEK receptor tyrosine kinase	NM_000459	TIE2	Y	Tie	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-185)
TESK2	testis associated actin remodelling kinase 2	NM_007170	TESK2	S/T	LISK	Please inquire.		Please inquire.
TLK1	tousled like kinase 1	NM_012290	TLK1	S/T	TLK	CSKS-AQT0683B CSKS-AQT0683KR	2616.9	Carna (05-166)
TLK2	tousled like kinase 2	NM_006852	TLK2	S/T	TLK	CSKS-AQT0683B CSKS-AQT0683KR	2616.9	Please inquire.
TNIK (ZC2)	TRAF2 and NCK interacting kinase	NM_015028	ZC2/TNIK	S/T	STE20	CSKS-AQT0135B CSKS-AQT0135KR	2563.9	Carna (07-138)
TNK1	tyrosine kinase non receptor 1	NM_003985.4	TNK1	Y	Ack	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	SignalChem (T12-11G)
TNK2 (ACK)	tyrosine kinase non receptor 2	NM_005781	ACK	Y	Ack	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Invitrogen(PV4807)
TRPM7 (CHAK1)	transient receptor potential cation channel subfamily M member 7	NM_017672	ChaK1	S/T	Alpha	CSKS-AQT0349B CSKS-AQT0349KR	2673.2	Carna (10-111)
TSSK1B (TSSK1)	testis specific serine kinase 1B	NM_032028	TSSK1	S/T	TSSK	CSKS-AQT0394B CSKS-AQT0394KR	2600.0	Carna (02-364)
TSSK2	testis specific serine kinase 2	NM_053006	TSSK2	S/T	TSSK	Please inquire.		SignalChem (S38-10G)
TSSK3	testis specific serine kinase 3	NM_052841	TSSK3	S/T	TSSK	Please inquire.		Carna (02-166)
TSSK6 (SSTK)	testis specific serine kinase 6	NM_032037	SSTK	S/T	TSSK	CSKS-AQT0252B CSKS-AQT0252KR	1714.0	Please inquire.
TTBK1	tau tubulin kinase 1	NM_032538	TTBK1	S/T	TTBK	Please inquire.		SignalChem (T17-11G)
TTBK2	tau tubulin kinase 2	NM_173500	TTBK2	S/T	TTBK	Please inquire.		Carna (03-109)
TTK	TTK protein kinase	NM_003318	TTK	S/T	TTK	Please inquire.		Carna (05-169)
TXK	TXK tyrosine kinase	NM_003328	TXK	Y	Tec	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-183)
TYK2 [JH1]	tyrosine kinase 2	NM_003331	TYK2	Y	Jak	CSKS-AQT0663B CSKS-AQT0663KR	1341.6	Carna (08-147)
TYK2 [JH1-JH2]	tyrosine kinase 2	NM_003331	TYK2	Y	Jak	Please inquire.		Please inquire.
TYRO3	TYRO3 protein tyrosine kinase	NM_006293	TYRO3	Y	Axl	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-109)
ULK1	unc-51 like autophagy activating kinase 1	NM_003565	ULK1	S/T	ULK	Please inquire.		SignalChem (U01-11G)
ULK2	unc-51 like autophagy activating kinase 2	NM_014683	ULK2	S/T	ULK	Please inquire.		SignalChem (U02-11G)
ULK3	unc-51 like autophagy activating kinase 3	NM_015518	ULK3	S/T	ULK	CSKS-AQT0683B CSKS-AQT0683KR	2616.9	Carna (05-173)
VRK1	VRK serine/threonine kinase 1	NM_003384	VRK1	S/T	VRK	Please inquire.		Please inquire.
VRK2	VRK serine/threonine kinase 2	NM_006296	VRK2	S/T	VRK	Please inquire.		Please inquire.
WEE1	WEE1 G2 checkpoint kinase	NM_003390	WEE1	Dual Specificity	WEE	CSKS-AQT0728B CSKS-AQT0728KR	2563.0	Please inquire.

HGNC (Common) Name	HGNC Approved Full Name	GenBank Acc.No.	Manning Name	Ser (S) Thr (T) Tyr (Y)	Family	Sensor Peptide Product Number (Bulk, Kit)	Sensor Peptide MW (g/mol)	Enzyme Used in Sensor Peptide Development
YES1 (YES)	YES proto-oncogene 1, Src family tyrosine kinase	NM_005433	YES	Y	Src	CSKS-AQT0515B CSKS-AQT0515KR	1585.9	Carna (08-175)
ZAP70	zeta chain of T cell receptor associated protein kinase 70	NM_001079	ZAP70	Y	Syk	CSKS-AQT0653B CSKS-AQT0653KR	2022.4	Carna (08-177)

Note: Substrate concentrations range from 10-15µM

Table 1.

Total Number of PhosphoSens Red-Shift TRF Kinase Assays
Total Number of Assays: 270*

*Please inquire if your target is not listed in the table above.

Table 2.

General Kinase Assay Reaction Conditions*
10-15 µM PhosphoSens Sensor Peptide
54 mM HEPES, pH 7.5
1 mM ATP (or adjusted as needed)
1.2 mM DTT
0.012% Brij-35
0.5% glycerol
0.22 mg/ml BSA
0.55 mM EGTA
10 mM MgCl ₂
Any additional co-factors or additives (as indicated in Table 4.)

*Does not account for Enzyme Storage Buffer contributions

Table 3.

Co-factors or Additives*
1. (-) EGTA (+) 5 ng/µl CaM, 0.4 mM CaCl ₂
2. (+) Activated (1 µM t-RNA)
3. (+) 10 mM KCl
4. (+) 1 mM AMP
5. (-) EGTA (+) 1.4mM PhosphatidylSerine, 38uM DiAcylGlycerol
6. (+) Activated (1X Cytiva DNA)
7. (+) 1 mM cGMP
8. (-) 10 mM MgCl ₂ (+) 30 mM MgCl ₂
9. (+) 50 mM KCl
10. (-) DTT

*The number designations after the Sensor Peptides Product Numbers denote the co-factors or additives captured above.

Table 4.

General Kinase Assay Reaction Set-Up
using a 384-well plate with 25 µL total volume in one well at 10 µM Sensor Peptide
Add 2 µL 100uM Sensor Peptide (CSKS-AQTxxxx)
Add 14 µL Master Mix (with Enzyme Reaction Buffer, ATP, DTT, and EGTA)
Incubate Reaction Mix (as prepared above) for 5 minutes @ 30°C
Add 4 µL Enzyme Dilution Buffer (EDB) (5x) or Enzyme dilutions (5x in EDB)
Put the plate in the reader at 30°C and measure kinetic fluorescent intensity (FI) reading (IExMax 360nm/IEmMax ~492 nm [485-498 nm]) until reaction is no longer linear.
Remove plate from reader
Add 4 µL 30 mM Europium (III) (AQT6XEUR) to each well
Incubate for 5 minutes @ Room Temperature
Return the plate to the reader and take an endpoint time-resolved fluorescence (RFU) reading (IExMax 360 nm/IEmMax ~620 nm).

Table 5.

PhosphoSens Evaluation Kit Components - Red-Shift Assay Format				
Product Number	Component	Description	Volume	Storage
CSKS-AQTxxxxKR*	PhosphoSens Substrate, 1 mM	PhosphoSens Sensor Peptide Substrate, 1 mM	35 µL	-20°C or below
	ATP Solution, 100 mM	100 mM ATP in nuclease-free water	150 µL	-20°C or below. Minimize repeated freeze/thaw cycles
	DTT Solution, 1 000 mM	1 000 mM DTT in nuclease-free water	150 µL	-20°C or below. Minimize repeated freeze/thaw cycles
	Enzyme Reaction Buffer, 10X	500 mM HEPES, pH 7.5, 0.1% Brij-35, 100 mM MgCl ₂	1,650 µL	-20°C or below
	Enzyme Dilution Buffer, 5X	20 mM HEPES, pH 7.5, 0.01% Brij-35, 5% Glycerol, 1 mg/mL BSA	1,650 µL	-20°C or below. Minimize repeated freeze/thaw cycles
	EGTA Solution, 550 mM	550 mM EGTA in 2000 mM NaOH	150 µL	-20°C or below
	Europium (III), 30 mM	30mM Europium (III) in 0.6 mM HCl	1,200 µL	Room temperature or below

*PLEASE NOTE: Any kits with a number designation after 'K-' come with the necessary additives.

Table 6.

PhosphoSens Buffers and Reagents				
Product Number	Component	Description	Volume	Storage
AQT100XATP	ATP Solution, 100 mM	100 mM ATP in nuclease-free water	1.5mL	-20°C or below. Minimize repeated freeze/thaw cycles
AQT1000XDTT	DTT Solution, 1 000 mM	1 000 mM DTT in nuclease-free water	0.15mL	-20°C or below. Minimize repeated freeze/thaw cycles
AQT10XERB	Enzyme Reaction Buffer, 10X	500 mM HEPES, pH 7.5, 0.1% Brij-35, 100 mM MgCl ₂	15mL	-20°C or below
AQT1XEDB	Enzyme DilutionBuffer, 5X	20 mM HEPES, pH 7.5, 0.01% Brij-35, 5% Glycerol, 1 mg/mL BSA	35mL	-20°C or below. Minimize repeated freeze/thaw cycles
AQT1000XEGTA	EGTA Solution, 550 mM	550 mM EGTA in 2000 mM NaOH	0.15mL	-20°C or below
AQT6XEUR	Europium (III), 30 mM	30mM Europium (III) in 0.6 mM HCl	35mL	Room temperature or below