Supporting Information

for

"Profiling Global Kinome Signatures of the Radioresistant MCF-7/C6 Breast Cancer Cells Using MRM-based Targeted Proteomics"

Lei Guo[1], Yongsheng Xiao[2], Ming Fan[3], Jian Jian Li[3,4] and Yinsheng Wang[1,2,*]

[1]Environmental Toxicology Graduate Program, and [2]Department of Chemistry, University of California, Riverside, CA 92521-0403

[3]Department of Radiation Oncology, [4]NCI-Designated Comprehensive Cancer Center, University of California Davis School of Medicine, Sacramento, CA 95817

Table S1. List of transitions and corresponding MRM collision energies for all monitored peptides is shown in Excel. "sp|ALBU BOVIN Standard" depicts peptides derived from Bovine serum albumin digest.

Table S2. List of all peptides and kinases identified or quantified in the scheduled MRM analysis from one set of forward and two sets of reverse SILAC experiments is shown in an Excel Table. "All match proteins" indicates peptides can also be assigned to other kinases.

Table S3. List of kinases quantified as significantly changed in radioresistant MCF-7/C6 compared to MCF-7/WT human breast cancer cells. Listed are the expression ratios of kinases in MCF-7/C6 versus MCF-7/WT.

IPI No.	Kinase Name	Description	Ratio
		Up-regulated	
IPI00007641	IRAK4	IRAK4 Interleukin-1 receptor-associated kinase 4	1.57 ± 0.11
IPI00301923	CDK9	CDK9 Isoform 1 of Cell division protein kinase 9	1.59 ± 0.15
IPI00029162	CHED	CDK13 Isoform 2 of Cell division protein kinase 13	1.64 ± 0.11
IPI00022827	SLK	SLK Isoform 1 of STE20-like serine/threonine-protein kinase	1.73 ± 0.22
IPI00298949	GAK	GAK Cyclin-G-associated kinase	1.78 ± 0.04
IPI00288940	Obscn	OBSCN Isoform 1 of Obscurin	1.82 ± 0.50
IPI00031681	CDK2	CDK2 Cell division protein kinase 2	1.82 ± 0.13
IPI00296337	DNAPK	PRKDC Isoform 1 of DNA-dependent protein kinase catalytic subunit	2.06 ± 0.63
IPI00031627	POLR2A	POLR2A DNA-directed RNA polymerase II subunit RPB1	2.06 ± 0.71
IPI00100329	ITPK1	ITPK1 Isoform 1 of Inositol-tetrakisphosphate 1-kinase	2.09 ± 0.79
IPI00297767	CK1g2	CSNK1G2 Casein kinase I isoform gamma-2	2.13 ± 0.38
IPI00002803	PKN1	PKN1 Isoform 1 of Serine/threonine-protein kinase N1	2.33 ± 0.52
IPI00186826	EphB4	EPHB4 Ephrin receptor	2.37 ± 0.36
IPI00016639	PKCi	PRKCI Protein kinase C iota type	2.39 ± 0.73
IPI00218857	MAP2K3	MAP2K3 Isoform 1 of Dual specificity mitogen-activated protein kinase kinase 3	2.40 ± 0.45
IPI00181294	CK1g3	CSNK1G3 Isoform 1 of Casein kinase I isoform gamma-3	2.51 ± 0.55
IPI00217437	TTBK2	TTBK2 Tau-tubulin kinase	2.55 ± 0.70
IPI00438229	TIF1b	TRIM28 Isoform 1 of Transcription intermediary factor 1-beta	2.73 ± 0.33
IPI00026689	CDC2	CDK1 Putative uncharacterized protein DKFZp686L20222	2.76 ± 0.48
IPI00290439	SRPK1	SRPK1 74 kDa protein	2.78 ± 0.26
IPI00176642	AurB	AURKB Serine/threonine-protein kinase 12	2.94 ± 0.44
IPI00003814	MAP2K6	MAP2K6 Isoform 1 of Dual specificity mitogen-activated protein kinase kinase 6	3.07 ± 0.36
IPI00180781	MLKL	MLKL Isoform 1 of Mixed lineage kinase domain-like protein	4.14 ± 0.25
IPI00023664	CHK1	CHEK1 Serine/threonine-protein kinase Chk1	5.46 ± 1.33
		Down-regulated	
IPI00172636	CaMK2d	CAMK2D Isoform Delta 6 of Calcium/calmodulin-dependent protein kinase type II subunit delta	0.24 ± 0.01
IPI00009688	PIP4K2A	PIP4K2A Phosphatidylinositol-5-phosphate 4-kinase type-2 alpha	0.29 ± 0.06
IPI00217960	PKACa	PRKACA Isoform 2 of cAMP-dependent protein kinase catalytic subunit alpha	0.32 ± 0.05
IPI00219592	PKACg	PRKACG CAMP-dependent protein kinase CatalytiC subunit gamma	0.32 ± 0.05
IPI00418221	MAP3K6	MAP3K6 Isoform 1 of Mitogen-activated protein kinase	0.39 ± 0.20

		kinase kinase 6	
IPI00217024	KHS2	MAP4K3 Isoform 1 of Mitogen-activated protein kinase kinase kinase kinase 3	0.43 ± 0.05
IPI00027251	NDR1	STK38 Serine/threonine-protein kinase 38	0.46 ± 0.02
IPI00479760	AAK1	AAK1 Isoform 2 of AP2-associated protein kinase 1	0.50 ± 0.21
IPI00329236	PKCd	PRKCD Protein kinase C delta type	0.54 ± 0.30
IPI00028932	MAST3	MAST3 Microtubule-associated serine/threonine-protein kinase 3	0.58 ± 0.07
IPI00304742	LOK	STK10 Serine/threonine-protein kinase 10	0.58 ± 0.06
IPI00021275	EphB2	EPHB2 Isoform 1 of Ephrin type-B receptor 2	0.64 ± 0.09
IPI00028570	GSK3B	GSK3B Isoform 1 of Glycogen synthase kinase-3 beta	0.66 ± 0.06

Table S4. List of kinases quantified based on unique or conserved peptides is shown in Excel.

Supplementary Skyline file. The skyline file for MRM kinome library (Kinome library.zip) contains the MS/MS spectra and iRT information for all targeted kinase peptides and 10 standard BSA peptides.