

Identification of Survival Genes in Human Glioblastoma Cells Using siRNA Screening

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Molecular Pharmacology

Supplementary Table S4
Survival Genes with binning and percent viability.

Gene Symbol	Full Gene Name	Accession	Chromosome (from SOURCE)	GO: Molecular Function	# of Bins	Percent viability (%)
RAN	RAN, member RAS oncogene family	NM_006325	12q24.3	nucleotide binding; chromatin binding; transcription coactivator activity; GTPase activity; protein binding; GTP binding; androgen receptor binding	8	5.84
DDX39	DEAD (Asp-Glu-Ala-Asp) box polypeptide 39	NM_138998	19p13.12	nucleotide binding; nucleic acid binding; protein binding; ATP binding; ATP-dependent helicase activity; hydrolase activity	7	6.90

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K-ALPHA-1	K-ALPHA-1	NM_006082		nucleotide binding; GTPase activity; structural molecule activity; GTP binding	7	8.22
PSMC3	proteasome (prosome, macropain) 26S subunit, ATPase, 3	NM_002804	11p12-p13	nucleotide binding; transcription coactivator activity; transcription corepressor activity; protein binding; ATP binding; hydrolase activity; nucleoside-triphosphatase activity	7	8.35
POLR2F	polymerase (RNA) II (DNA directed) polypeptide F	NM_021974	22q13.1	DNA binding; DNA-directed RNA polymerase activity	7	9.66
PSMD14	proteasome (prosome, macropain) 26S subunit, non-ATPase, 14	NM_005805	2q24.2	protein binding	6	10.90

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SIAT7E	ST6 (alpha-N-acetylneuraminyl-2,3-beta-galactosyl-1,3)-N-acetylgalactosaminide alpha-2,6-sialyltransferase 5	NM_030965		sialyltransferase activity	7	11.16
SPINK1	serine protease inhibitor, Kazal type 1	NM_003122		serine-type endopeptidase inhibitor activity; protein binding	5	11.19
SIAT4B	ST3 beta-galactoside alpha-2,3-sialyltransferase 2	NM_006927	16q22.1	beta-galactoside alpha-2,3-sialyltransferase activity	7	11.25
BTN2A3	butyrophilin, subfamily 2, member A3	NM_024018	6p22.1		7	11.45

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SPTLC1	serine palmitoyltransferase, long chain base subunit 1	NM_178324	9q22.2	catalytic activity; serine C- palmitoyltransferase activity; protein binding; acyltransferase activity; transferase activity; transferase activity, transferring nitrogenous groups; pyridoxal phosphate binding	7	11.66
PSMC6	proteasome (prosome, macropain) 26S subunit, ATPase, 6	NM_002806	14q22.1	nucleotide binding; ATP binding; hydrolase activity; ATPase activity; protein binding, bridging	6	12.17

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HLCS	holocarboxylase synthetase (biotin-[propionyl-Coenzyme A-carboxylase (ATP-hydrolysing)] ligase)	NM_000411	21q22.1 21q22.13	biotin-[acetyl-CoA-carboxylase] ligase activity; biotin-[methylcrotonoyl-CoA-carboxylase] ligase activity; biotin-[methylmalonyl-CoA-carboxytransferase] ligase activity; biotin-[propionyl-CoA-carboxylase (ATP-hydrolysing)] ligase activity; ligase activity	6	12.48
TUBGCP6	tubulin, gamma complex associated protein 6	NM_020461	22q13.31-q13.33	microtubule binding	7	13.45

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BUB1B	BUB1 budding uninhibited by benzimidazoles 1 homolog beta (yeast)	NM_001211		nucleotide binding; protein serine/threonine kinase activity; protein binding; ATP binding; transferase activity	5	13.49
GRHPR	glyoxylate reductase/hydroxypyruvate reductase	NM_012203	9q12	catalytic activity; protein binding; glycerate dehydrogenase activity; oxidoreductase activity; oxidoreductase activity, acting on the CH-OH group of donors, NAD or NADP as acceptor; hydroxypyruvate reductase activity; glyoxylate reductase (NADP) activity	6	14.21

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TLR2	toll-like receptor 2	NM_003264	lipopolysaccharide receptor activity; transmembrane receptor activity; protein binding; oxidoreductase activity; peptidoglycan binding; Gram-positive bacterial binding	5	15.52
PRKCD	protein kinase C, delta	NM_006254	nucleotide binding; protein kinase C activity; ATP binding; protein C-terminus binding; enzyme activator activity; zinc ion binding; transferase activity; enzyme binding; diacylglycerol binding; metal ion binding	5	15.55

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CHN1	chimerin (chimaerin) 1	NM_001025201	2q31-q32.1	SH3/SH2 adaptor activity; GTPase activator activity; protein binding; zinc ion binding; diacylglycerol binding; metal ion binding	6	15.67
AKT3	v-akt murine thymoma viral oncogene homolog 3 (protein kinase B, gamma)	NM_181690		nucleotide binding; protein serine/threonine kinase activity; protein binding; ATP binding; transferase activity	5	16.28
PSMC5	proteasome (prosome, macropain) 26S subunit, ATPase, 5	NM_002805		nucleotide binding; transcription cofactor activity; ATP binding; hydrolase activity; ATPase activity; thyrotropin-releasing hormone receptor binding	5	17.05
UBL5	ubiquitin-like 5	NM_024292			5	19.35

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POMT1	protein-O-mannosyltransferase 1	NM_007171	9q34.1	mannosyltransferase activity; magnesium ion binding; dolichyl-phosphate-mannose-protein mannosyltransferase activity; transferase activity; transferase activity, transferring glycosyl groups	6	19.39
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IDH3B	isocitrate dehydrogenase 3 (NAD+) beta	NM_174856	20p13	magnesium ion binding; isocitrate dehydrogenase (NAD+) activity; electron carrier activity; oxidoreductase activity; oxidoreductase activity, acting on the CH-OH group of donors, NAD or NADP as acceptor; manganese ion binding	7	19.42
TNNI3K	TNNI3 interacting kinase	NM_015978		nucleotide binding; magnesium ion binding; protein serine/threonine kinase activity; protein tyrosine kinase activity; ATP binding; protein C-terminus binding; transferase activity; troponin I binding	5	20.08

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COX7A2	cytochrome c oxidase subunit VIIa polypeptide 2 (liver)	NM_001865		cytochrome-c oxidase activity; electron carrier activity	5	20.23
ZAP128	ZAP128	NM_006821	14q24.3	carboxylesterase activity; protein binding; palmitoyl-CoA hydrolase activity; hydrolase activity; thiolester hydrolase activity	6	20.51
ITGB3	integrin, beta 3 (platelet glycoprotein IIIa, antigen CD61)	NM_000212	17q21.32	receptor activity; integrin binding; identical protein binding	5	20.75
PIGQ	phosphatidylinositol glycan, class Q	NM_148920		transferase activity, transferring glycosyl groups; phosphatidylinositol N-acetylglucosaminyltransferase activity	6	20.85
BST1	bone marrow stromal cell antigen 1	NM_004334		NAD+ nucleosidase activity; binding; hydrolase activity	5	21.57

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RRM1	ribonucleotide reductase M1 polypeptide	NM_001033	11p15.5	nucleotide binding; ribonucleoside-diphosphate reductase activity; protein binding; ATP binding; oxidoreductase activity	7	21.76
CLCN3	chloride channel 3	NM_173872	4q33	ion channel activity; voltage- gated ion channel activity; voltage-gated chloride channel activity; protein binding; PDZ domain binding; chloride ion binding; protein homodimerization activity; protein heterodimerization activity	7	22.20

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GPX2	glutathione peroxidase 2 (gastrointestinal)	NM_002083		glutathione peroxidase activity; selenium binding; electron carrier activity; oxidoreductase activity	5	22.70
SLC7A2	solute carrier family 7 (cationic amino acid transporter, γ + system), member 2	NM_003046	8p22-p21.3	basic amino acid transmembrane transporter activity	7	23.17
ARHGEF11	Rho guanine nucleotide exchange factor (GEF) 11	NM_014784		G-protein-coupled receptor binding; signal transducer activity; guanyl-nucleotide exchange factor activity; Rho guanyl-nucleotide exchange factor activity; GTPase activator activity; protein binding	5	24.52

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POLR2A	polymerase (RNA) II (DNA directed) polypeptide A, 220kDa	NM_000937		magnesium ion binding; DNA binding; DNA-directed RNA polymerase activity; protein binding; zinc ion binding; transferase activity; nucleotidyltransferase activity	5	24.82
SMS	spermine synthase	NM_004595	X	spermidine synthase activity; transferase activity; spermine synthase activity	6	24.90
GALNS	galactosamine (N-acetyl)-6-sulfate sulfatase (Morquio syndrome, mucopolysaccharidosis type IVA)	NM_000512	16q24.3	catalytic activity; N-acetylgalactosamine-4-sulfatase activity; calcium ion binding; sulfuric ester hydrolase activity; hydrolase activity; N-acetylgalactosamine-6-sulfatase activity	5	25.30

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MPHOSPH1	M-phase phosphoprotein 1	NM_016195		nucleotide binding; microtubule motor activity; ATP binding; ATPase activity; WW domain binding	5	26.04
GRCC9	GRCC9	NM_032641			5	26.60
PSMB2	proteasome (prosome, macropain) subunit, beta type, 2	NM_002794	1p34.2	threonine-type endopeptidase activity; peptidase activity	6	26.70
CGI-04	tyrosyl-tRNA synthetase 2 (mitochondrial)	NM_015936		nucleotide binding; tyrosine- tRNA ligase activity; protein binding; ATP binding; ligase activity	5	27.61

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GRIN1	glutamate receptor, ionotropic, N-methyl D-aspartate 1	NM_007327	9q34.3	magnesium ion binding; receptor activity; ionotropic glutamate receptor activity; N-methyl-D-aspartate selective glutamate receptor activity; ion channel activity; extracellular-glutamate-gated ion channel activity; calcium ion b	6	29.05
RAB40B	RAB40B, member RAS oncogene family	NM_006822	17q25.3	nucleotide binding; GTP binding	5	29.68
GUSB	glucuronidase, beta	NM_000181	7q21.11	beta-glucuronidase activity; cation binding	7	29.93
PKD1L3	polycystic kidney disease 1-like 3	NM_181536	16q22.3	ion channel activity; binding; calcium ion binding; sugar binding	5	30.47

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PSMB4	proteasome (prosome, macropain) subunit, beta type, 4	NM_002796	1q21	threonine-type endopeptidase activity; peptidase activity	5	30.56
PSMA6	proteasome (prosome, macropain) subunit, alpha type, 6	NM_002791	14q13	RNA binding; threonine-type endopeptidase activity; protein binding; peptidase activity	6	30.62
POLR2G	polymerase (RNA) II (DNA directed) polypeptide G	NM_002696		RNA binding; DNA-directed RNA polymerase activity; protein binding	5	30.81
PSMA4	proteasome (prosome, macropain) subunit, alpha type, 4	NM_002789	15q25.1	threonine-type endopeptidase activity; peptidase activity; identical protein binding	5	31.58

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CYP1B1	cytochrome P450, family 1, subfamily B, polypeptide 1	NM_000104	2p21	monooxygenase activity; iron ion binding; protein binding; electron carrier activity; oxygen binding; heme binding; metal ion binding; unspecific monooxygenase activity	5	32.29
PSMA3	proteasome (prosome, macropain) subunit, alpha type, 3	NM_152132	14q23	threonine-type endopeptidase activity; protein binding; peptidase activity	6	33.00
PSMA5	proteasome (prosome, macropain) subunit, alpha type, 5	NM_002790		threonine-type endopeptidase activity; protein binding; peptidase activity	6	33.87
PSMA2	proteasome (prosome, macropain) subunit, alpha type, 2	NM_002787	7p13	threonine-type endopeptidase activity; protein binding; peptidase activity	6	34.50

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PSMA1	proteasome (prosome, macropain) subunit, alpha type, 1	NM_148976	11p15.1	RNA binding; threonine-type endopeptidase activity; protein binding; peptidase activity	5	34.72
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