Supplementary information S1 (table) | Description of genes regulated by p53 (part I)*

#	Gene Name(s)	Short Description	Accession #	1st Half-site	Spacer	2nd Half-site	Refs
1	ABCB1, MDR1	ATP-binding cassette sub-family B member 1	AF016535	GGGCAGGAACA	gcgccggggcgt	GGGCTGAGCA	1
2	ACTA2	smooth muscle alpha-actin	NM_001613	AACCATGCCT		GCATCTGCCC	2
3	AIFM2, AMID	apoptosis-inducing factor, mitochondrion-assoc.	NM_032797	AGGCATGAGC	caccgtgcct	GGCCATGCCC	3
3	AIFM2, AMID	apoptosis-inducing factor, mitochondrion-assoc.	NM_032797	AGGTCTCGCTA	tgttgccc	AGGCTGGTCT	3
4	ANLN	anillin, actin binding protein	NM_018685	GAACTGGCTT	ttctga	GGGCCAGGCC	4
5	APAF1	apoptotic peptidase activating factor 1	NM_001160	AGACATGTCT	ggagaccctagga	CGACAAGCCC	5
6	APC	adenomatosis polyposis coli	NM_000038	GGGCATACCC	ccgaggggtacg	GGGCTAGGGCt	6
7	ARID3A, E2FBP1	AT rich interactive domain 3A (BRIGHT-like)	NM_005224	GGACACGCTG		GGACATGCCT	7
8	ATF3	activating transcription factor 3	NM_001674	AGTCATGCCG	ctggcttgggcaccatt	GGTCATGCCT	8
9	BAI1	brain-specific angiogenesis inhibitor 1	NM_001702	tGGCTGCCT		GGACATGTTC	9
10	BAX	BCL2-associated X protein	NM_004324	GGGCAGGCCC		GGGCTTGTCG	10
11	BBC3, PUMA	BCL2 binding component 3	NM_014417	CTGCAAGTCC		TGACTTGTCC	11
12	BCL2L14, BCL-G	BCL2-like 14 (apoptosis facilitator)	NM_030766	AGCCAAGGCT		GGTCTTGAAC	12
13	BCL6	B-cell CLL/lymphoma 6 (zinc finger protein 51)	NM_001706	AGACAGTGCTT	gggggtgattc	GGGCTAGTCT	13
14	BDKRB2, BK2	bradykinin receptor B2	NM_000623	GGAagTGCCC		AGGaggcTga	14
15	BID	BH3 interacting domain death agonist	NM_197966	GGGCATGATG		GTGCATGCCT	15
16	BIRC5, survivin	baculoviral IAP repeat-containing 5 (survivin)	NM_001168	GGGCGTGCGC	tcc	CGACATGCCC	16
17	BNIP3L	BCL2/adenovirus E1B interacting protein 3-like	NM_004331	AAGCTAGTCT	cagtg	GcGCATGCCT	17
18	BTG2, TIS21	BTG family, member 2	NM_006763	AGTCCGGGCA	g	AGCCCGAGCA	18
19	C12orf5	chromosome 12 open reading frame 5	NM_020375	AGACATGTCC	ac	AGACTTGTCT	19
20	C13orf15, RGC32	chromosome 13 open reading frame 15	NM_014059	AGGCgAGTTT	aag	cAGCTTGTCC	20
21	CASP1	caspase 1, apoptosis-related cysteine peptidase	NM_033292	AGACATGCAT		ATGCATGCAca	21
22	CASP10	caspase 10, apoptosis-related cys-peptidase	NM_032977	AAACTTGCTg	gttta	AAtCTTGgCT	22
23	CASP6	caspase 6, apoptosis-related cysteine peptidase	NM_001226	AGGCAAGGAG	tttg	AGACAAGTCT	23
24	CAV1	caveolin 1, caveolae protein, 22kDa	NM_001753	GCCCAAGCAC	cccagcgcg	GGAGAaACGTTC	24
25	CCNG1	cyclin G1	NM_004060	GcACAAGCCC		AGGCTAGTCC	25
26	CCNK	cyclin K	NM_003858	AAACTAGCTT	gc	AGACATGCTg	26
27	CD82, KAI1	CD82 molecule	NM_002231	AGGCAAGCT	ggggca	GctCAAGCCT	27
28	CDC25C	cell division cycle 25 homolog C (S. pombe)	NM_001790	GGGCAAGTCT	taccatttcca	GAGCAAGCaC	28
29	CDKN1A, p21	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	NM_000389	AGACTGGGCA		TGTCTGGGCA	29
29	CDKN1A, p21	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	NM_000389	GAAgAAGaCT		GGGCATGTCT	30
29	CDKN1A, p21	cyclin-dependent kinase inhibitor 1A (p21, Cip1)	NM_000389	GAACATGTCC		cAACATGTTg	30

30	Chmp4C	chromatin modifying protein 4C	NM_152284	AAACAAGCCC	agtagcagcagctgctcc	GAGCTTGCCC	31
31	COL18A1	collagen, type XVIII, alpha 1	NM_030582	TGACATGTGT		GAGCATGTAT	12
31	COL18A1	collagen, type XVIII, alpha 1	NM_030582	TGACATGTGT		GAGCATGTAT	12
32	CRYZ	crystallin, zeta (quinone reductase)	NM_001889	ctGCAAGTCC	att	AAACcTGTTT	4
33	CTSD, IRDD	cathepsin D	NM_001909	AAcCTTGgTT		tgcAAgAgGCTT	32
33	CTSD, IRDD	cathepsin D	NM_001909	AAGCTgGgCC		GGGCTgaCCC	32
34	CX3CL1, fractalkine	chemokine (C-X3-C motif) ligand 1	NM_002996	GGGCATGTTC	c	CAGCTTGTGG	33
35	DDB2	damage-specific DNA binding protein 2, 48kDa	NM_000107	GAACAAGCCC	t	GGGCATGTTT	34
36	DDIT4, REDD1	DNA-damage-inducible transcript 4	NM_019058	AAACAAGTCT		TTCCTTGATC	35
37	DDR1	discoidin domain receptor family, member 1	NM_013994	GAGCTGGTCC		AGGCTTATCT	36
38	DKK1	dickkopf homolog 1 (Xenopus laevis)	NM_012242	AGCCAAGCTT	ttaatg	AACCAAGTTC	37
39	DNMT1	DNA (cytosine-5-)-methyltransferase 1	NM_001379	GCGCATGCGT	gttccct	GGGCATGGCC	38
40	DUSP1, MKP1	dual specificity phosphatase 1	NM_004417	GGTCCTGCCC	a	GGCAAATGGG	39
41	DUSP5	dual specificity phosphatase 5	NM_004419	CAACAAGCCC	t	TGTCTAGTGC	40
42	EDN2	endothelin 2	NM_001956	CTGCAAGCCC		GGGCATGCCC	41
43	EEF1A1	eukaryotic translation elongation factor 1 alpha 1	NM_001402	GGGCAGACCC	ga	GAGCATGCCC	42
43	EEF1A1	eukaryotic translation elongation factor 1 alpha 1	NM_001402	GGACACGTAG	attc	GGGCAAGTCC	42
43	EEF1A1	eukaryotic translation elongation factor 1 alpha 1	NM_001402	AAACATGATT	ac	AGGGACATCT	42
44	EGFR	epidermal growth factor receptor	NM_005228	GAGCTAGACG	tcc	GGGCAGCCCC	43
45	EphA2	EPH receptor A2	NM_004431	CACCATGTTG	gcc	AGGCATGTCT	44
46	FANCC, FAC	Fanconi anemia, complementation group C	NM_000136	GGACATGTTT	aaatacttga	GAGCTATTTT	45
47	FAS, CD95	Fas (TNF receptor superfamily, member 6)	NM_000043	GGACAAGCCC		TGACAAGCCA	46
48	FDXR	ferredoxin reductase	NM_024417	GGGCAgGagC		GGGCTTGCCC	47
49	GADD45A	growth arrest and DNA-damage-inducible, alpha	NM_001924	GAACATGTCT		AAGCATGCTG	48
50	GDF15, MIC-1	growth differentiation factor 15	NM_004864	AGCCATGCCC		GGGCAAGAAC	49
50	GDF15, MIC-1	growth differentiation factor 15	NM_004864	CATCTTGCCC		AGACTTGTCT	50
51	GML	GPI anchored molecule like protein	NM_002066	AtGCTTGCCC		AGGCATGTCC	51
52	GPX1	glutathione peroxidase 1	NM_000581	GGGCCAGACC		AGACATGCCT	19
53	HBV	hepatitis B virus	get_this	TTGCATGTAT	acaagct	AAACAGGCTT	52
54	HD, Huntington	huntingtin (Huntington disease)	NM_002111	ATGCTTGTTC	tacagaa	GAGCATGTTA	53
54	HD, Huntington	huntingtin (Huntington disease)	NM_002111	CGCCATGTTG	gcc	AGGCTGGTCT	53
54	HD, Huntington	huntingtin (Huntington disease)	NM_002111	GGGCCTGCTT	ccagtt	AAGCTTGCTT	53
55	HGF, SF	hepatocyte growth factor	NM_000601	ACACATGTAT		TTTCCTGTTT	54
56	HIC1	hypermethylated in cancer 1	NM_006497	GGGCGCTGCCC		TGGCACAGCTC	55
57	HRAS, c-Ha-Ras	Harvey rat sarcoma viral oncogene homolog	NM_176795	large	cluster	site	56

58	HSP90AB1, hsp90beta	heat shock protein 90kDa alpha B 1	NM_007355	GGGACTGTCT	gggtatcgga	AAGCAAGCCT	57
59	HSPA8	heat shock 70kDa protein 8	NM_006597	GcACTAGTTC	tggacctc	GcGCgTGCTT	4
60	IBRDC2, p53RFP	IBR domain containing 2	NM_182757	AGACAGGTCC		TGACAAGCAG	58
61	IER3, IEX-1	immediate early response 3	NM_003897	GCCACATGCCT		CGACATGTGCC	59
62	IGFBP3	insulin-like growth factor binding protein 3	NM_000598	large	cluster	site	60
62	IGFBP3	insulin-like growth factor binding protein 3	NM_000598	GGGCAAGACC		TGCCAAGCCT	60
62	IGFBP3	insulin-like growth factor binding protein 3	NM_000598	AAACAAGCCA	c	CAACATGCTT	60
63	IRF5	interferon regulatory factor 5	NM_032643	AGGCATGCCa	ca	AGGCATGgTC	61
64	KRT8, CK8	keratin 8	NM_002273	ccGCcTGCCT	cc	ActCcTGCCT	62
65	LGALS3, galectin-3	lectin, galactoside-binding, soluble, 3	NM_002306	GGGCTTGCAA	gctg	GAGCCTTGTTT	63
66	LIF	leukemia inhibitory factor	NM_002309	GGACATGTCG		GGACAGCTC	64
67	LRDD, PIDD	leucine-rich repeats and death domain containing	NM_018494	AGGCcTGCCT	gcgtgctg	GGACATGTCT	65
68	MAD1L1, MAD1	MAD1 mitotic arrest deficient-like 1 (yeast)	NM_003550	GATTCAAGCTG		ATACTGAGT	66
69	mdm2	Mdm2, transformed 3T3 cell double minute 2	NM_002392	AGTTAAGTCC		TGACTTGTCT	67
69	mdm2	Mdm2, transformed 3T3 cell double minute 2	NM_002392	GGTCAAGTTC		AGACACGTTC	67
70	MET	met proto-oncogene	NM_000245	ggacggacag	cacgcgaggcagac	AGACAcGTgC	68
71	MLH1	mutL homolog 1, colon cancer	NM_000249	AGGCATGTAC	a	GCGCATGCCC	69
72	MMP2	matrix metallopeptidase 2	NM_004530	AGACAAGCCT		GAACTTGTCT	70
73	MSH2	mutS homolog 2	NM_000251	GAcCTAGgCg	c	AGGCATGCgC	71
73	MSH2	mutS homolog 2	NM_000251	AGGCTAGTTT	ttttttgttttc	AAGTTTCCTT	72
74	NDRG1	N-myc downstream regulated gene 1	NM_006096	CCACATGCAC	acgcacgagcgc	GCACATGAAC	73
75	NLRC4, Ipaf	NLR family, CARD domain containing 4	NM_021209	AGACATGTTC		CTGGTAGTTT	74
76	NOS3	nitric oxide synthase 3 (endothelial cell)	NM_000603	GAGCcTcCCa	gcc	GGGCTTGTTC	75
77	ODC1	ornithine decarboxylase 1	NM_002539	GGACcAGTTC	caggc	GGGCgAGaCC	4
77	ODC1	ornithine decarboxylase 2	NM_002539	GGGCTcGCCT	tggtacagac	GAGCggGCCC	4
78	P2RXL1	purinergic receptor P2X-like 1, orphan receptor	NM_005446	GAACAAGggC	at	GAGCTTGTCT	76
79	P53AIP1	p53-regulated apoptosis-inducing protein 1	NM_022112	TCTCTTGCCC		GGGCTTGTCG	77
80	PCBP4, MCG10	poly(rC) binding protein 4	NM_020418	GgtCTTGgCCC		AGACTTAGCaC	78
80	PCBP4, MCG10	poly(rC) binding protein 4	NM_020418	GAACTT	aagaccgaggctct	GGACAAGTT	78
81	PCNA	proliferating cell nuclear antigen	NM_002592	GAACAAGTCC		GGGCATaTgT	79
82	PERP	PERP, TP53 apoptosis effector	NM_022121	AGGCAAGCTC		CAGCTTGTTC	80
83	PLAGL1, ZAC	pleiomorphic adenoma gene-like 1	BC074814	CAACTAGACT		AGACTAGCTT	81
84	PLK2, SNK	polo-like kinase 2 (Drosophila)	NM_006622	AGACATGgTg	tgt	AAACTAGCTT	82
84	PLK2, SNK	polo-like kinase 2 (Drosophila)	NM_006622	GGtCATGaTT	cct	tAACTTGCCT	82
84	PLK2, SNK	polo-like kinase 2 (Drosophila)	NM_006622	AAACATGCCT		GGACTTGCCC	82

85	PLK3	polo-like kinase 3 (Drosophila)	NM_004073	TAACATGCCC	gggcaa	AAGCGAGCGC	19
86	PML	promyelocytic leukemia	NM_002675	GcGCTgGCCT	ggagccag	GGGCATGTCC	83
87	PMS2	PMS2 postmeiotic segregation increased 2	NM_000535	ATACTTGATT	tg	TTTCTTGTAA	69
88	PPM1J, MGC19531	protein phosphatase 1J (PP2C domain containing)	NM_005167	GAACATGCCT		GAGCAAGCCC	41
89	PRDM1, BLIMP1	PR domain containing 1, with ZNF domain	NM_182907	GTGCAAGTCT		GGACATGTTT	84
90	PRKAB1, AMPKbeta1	protein kinase, AMP-activated, beta 1	NM_006253	GTTCTTGCCG		CGGCTTGCCT	19
91	PTEN	phosphatase and tensin homolog	NM_000314	GAGCAAGCCC	caggcagctacact	GGGCATGCTC	85
92	PTK2, FAK	PTK2 protein tyrosine kinase 2	NM_153831	AAGCAAGCC		no 2nd site	86
93	PYCARD, ASC	PYD and CARD domain containing	NM_013258	GTGCAAGCCC	ag	AGACAAGCAG	87
94	RABGGTA	Rab geranylgeranyltransferase, alpha subunit	NM_004581	CCTCTTGTGG	aacgtgca	AAGCCTGTCC	19
95	RB1	retinoblastoma 1 (including osteosarcoma)	NM_000321	GGGCGTGCCC	cgac	GTGCgcGCgC	88
96	RFWD2, COP1	ring finger and WD repeat domain	NM_022457	AGACTTGCCT	gt	GAACAGTCAC	89
97	RPS27L	ribosomal protein S27-like	NM_015920	GGGCATGTAG		TGACTTGCCC	41
98	RRM2B, p53R2	ribonucleotide reductase M2 B	NM_015713	tGACATGCCC		AGGCATGTCT	90
99	S100A2	S100 calcium binding protein A2	NM_005978	GGGCATGTgT		GGGCAcGTTC	91
100	SCARA3, CSR1	scavenger receptor class A, member 3	NM_016240	GGGCAAGCCC		AGACAAGTTg	92
101	SCD	stearoyl-CoA desaturase (delta-9-desaturase)	NM_005063	GGGCcgGTCC	t	GGGCTAGgCT	4
102	SCN3B	sodium channel, voltage-gated, type III, beta	NM_018400	TGACTTGCTC		TGCCTTGCCT	93
102	SCN3B	sodium channel, voltage-gated, type III, beta	NM_018400	TGGCAAGGCT		GAGCTAGTTC	93
103	SERPINB5, maspin	serpin peptidase inhibitor, clade B, member 5	NM_002639	GAACATGTTg	g	AGGCcTtTTg	94
104	SERPINE1	serpin peptidase inhibitor, clade E, member 1	NM_000602	AcACATGCCT		cAGCAAGTCC	95
105	SESN1, PA26	sestrin 1	AF033120	GGACAAGTCT		CCACAAGTCa	96
106	SFN, 14-3-3sigma	stratifin	NM_006142	AGCATTAGCCC		AGACATGTCC	97
107	SH2D1A, SAP	SH2 domain protein 1A, Duncan's disease	NM_002351	GGCTGGCTC	agctgt	CAGCTTGCTT	98
107	SH2D1A, SAP	SH2 domain protein 1A, Duncan's disease	NM_002351	GGGCTGGCTC		GGCTGGCTC	98
107	SH2D1A, SAP	SH2 domain protein 1A, Duncan's disease	NM_002351	CAACACTGCAC	tagt	GGGCTGGCTC	98
108	SLC38A2	solute carrier family 38, member 2	NM_018976	AAcCATGCTg	ttacacgcacc	AGCTTGTCC	4
109	STEAP3, TSAP6	STEAP family member 3	NM_001008410	AGACAAGCAT	ag	GGACATGCTC	99
110	TAP1	transporter 1, ATP-binding cassette	NM_000593	GGGCTTGgCC	ctgccg	GGACTTGCCT	100
111	TGFA	transforming growth factor, alpha	NM_003236	GGGCAGGCCC		TGCCTAGTCT	101
112	TNFRSF10A, DR4	tumor necrosis factor receptor superfamily, 10a	NM_003844	GGGCATGTCC		GGGCAgGagg	102
113	TNFRSF10B, DR5	tumor necrosis factor receptor superfamily, 10b	NM_003842	GGGCATGTCC		GGGCAAGaCg	103
114	TNFRSF10C, DcR1	tumor necrosis factor receptor superfamily, 10c	NM_003841	GGGCATGTCC		GGGCAGGACG	104
115	TNFRSF10D, DcR2	tumor necrosis factor receptor superfamily, 10d	NM_003840	GGGCATGTCT		GGGCAGGACG	104
116	TP53, p53	tumor protein p53 (Li-Fraumeni syndrome)	NM_000546	TTACTTGCCC		TTACTTGTCA	105

117	TP53i3, Pig3	tumor protein p53 inducible protein 3	NM_004881	large	cluster	site	106
118	TP53INP1	tumor protein p53 inducible nuclear protein 1	NM_033285	GAACTTGggg		GAACATGTTT	107
119	TP63, TP73L	tumor protein p63, p73-like Delta N variant	AF075433	TAACTTGTTA	ttg	AAACATGCTC	108
120	TP73, p73	tumor protein p73	NM_005427	GtACTTGCCg	tccgggga	GAACTTGCag	109
120	TP73, p73	tumor protein p73	NM_005427	GAACTTGCag	agtaagctgga	GAGCTTGaaT	109
121	Tp73:Delta	tumor protein p73 Delta N variant	AY040827	GGGCAAGCT	gaggcctgcccc	GGACTTGGAT	110
122	TRIAP1, p53CSV	TP53 regulated inhibitor of apoptosis 1	NM_016399	CTTCATGTCC		GTGCATGCCT	111
123	TRIM22, Staf50	tripartite motif-containing 22	NM_006074	TGACATGTCT		AGGCATGTAG	112
124	TRPM2	transient receptor potential cation channel, M2	NM_003307	GGCCTTGCCT	tgctc	AGGCCTGCTT	4
124	TRPM2	transient receptor potential cation channel, M2	NM_003307	GAGCAGGTCT	gacctgcttccca	GGGCCTGCTT	4
124	TRPM2	transient receptor potential cation channel, M2	NM_003307	TGCCTTGCTC		AGGCCTGCTT	4
125	TSC2	tuberous sclerosis 2	NM_000548	TAACAAGCTC	g	GGGCTAGCCC	113
125	TSC2	tuberous sclerosis 2	NM_000548	AGGCTAGTCT	gaaactcctgggc	TGACGTGAC	113
125	TSC2	tuberous sclerosis 2	NM_000548	GGGCATGGTG		GCACATGCCT	113
126	TYRP1, TRP-1	tyrosinase-related protein 1	NM_000550	CGCCTAGTTT	gggt	GAGCAGATT	114
126	TYRP1, TRP-1	tyrosinase-related protein 1	NM_000550	GAGCAGATT	tgggattaattatc	AGGCAGCAA	114
126	TYRP1, TRP-1	tyrosinase-related protein 1	NM_000550	CCACATGCAC	t	TAACAGTTC	114
126	TYRP1, TRP-1	tyrosinase-related protein 1	NM_000550	AGACCAGCCC	cc	CGCCTAGTTT	114
126	TYRP1, TRP-1	tyrosinase-related protein 1	NM_000550	AGGCAGCAA	t	CCACATGCAC	114
127	UBD, FAT10	ubiquitin D	NM_006398	AGGCATGCTC		AGTGGCGTGG	115
128	VCAN, CSPG2	versican	NM_004385	AGACTTGCC	a	CAGACAAGTCC	116
129	VDR	vitamin D (1,25- dihydroxyvitamin D3) receptor	NM_000376	TAACTAGTTT		GAACAAGTTG	117
129	VDR	vitamin D (1,25- dihydroxyvitamin D3) receptor	NM_000376	AGGTTAGATG	tac	TAACTAGTTT	117

*This table provides the gene names, the accession numbers and the DNA response elements (REs) of experimentally validated p53-regulated genes. The REs typically consist of two half sites separated by a variable length spacer. Exceptional cases consist of only one apparent half site. The REs that consist of many (>4) half sites are annotated as 'large cluster sites', and as such, are too large to include in the space provided.

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