Supplementary material

Regulation of the p53 expression profile by hnRNP K under stress conditions

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Materials and Methods

Semi-quantitative RT-PCR

For RT-PCR, after transfection of MCF-7 cells with siRNA or DNA plasmids and treatment with specific stress agents, total RNA was isolated from the cells using TriReagent (Molecular Research Centre, Inc.) according to the manufacturer's protocol. RT-PCR was performed as previously described [10]. Briefly, the cDNA was prepared from 200 ng of RNA using 100 ng of oligo(dT)$_{18}$ primer and 100 units of SuperScript^{TM} III reverse transcriptase (Invitrogen). Equal volumes of cDNA were used to amplify DNA fragments of hnRNP K and ß-actin using the following primers: hnRNP K Forward: 5′-CCTATGACAGAAGAGGGAGAC-3′; hnRNP K Reverse: 5′-CCCTGTGGTTCATAAGCCATC-3′; ß-actin Forward: 5′-AGAGCAAGAGAGGCATCCTG-3′; ß-actin Reverse: 5′-CGACGTAGCACAGCTTCTCC-3′.

Figure and table captions

Fig S1: P1-Δ40p53 RNA and P0-Δ40p53 RNA affinity chromatography for untreated and 24 hour doxorubicin-treated MCF- 7 cells. Total cytoplasmic fractions and the protein eluates were incubated for 5 min at 95°C and then loaded on a 10% SDS-PAGE gel. After electrophoresis the gel was silver stained according to manufacturer's protocol (Pierce Silver Stain Kit).

Fig S2: Distribution of proteins identified by P0-Δ40p53 RNA affinity chromatography and MS analysis for untreated and 24 hour doxorubicin-treated MCF-7, HepG2 and HT-29 cells.

Fig S3: Downregulation of hnRNP K causes reduction of p53 expression at the protein level in MCF-7, HepG2 and HT-29 cells. hnRNP K was depleted by specific siRNA used at the final concentrations of 10 nM or 50 nM. Twenty-four hours after transfection the cells were treated with doxorubicin at the final concentration of 0.5 μg/mL. The levels of hnRNP K, p53 and GAPDH were determined by western blots. Each experiment was repeated twice.

Fig S4: Semi-quantitative RT-PCR showing depletion of hnRNP K by siRNA in MCF-7 cells under various stress conditions. The cells were transfected with specific hnRNP K or control siRNAs and 24 hours after transfection stress agents were added. The cells were exposed for 24 hours to doxorubicin (Dox, 0.5 μg/mL), tunicamycin (TU, 1.2 μM), thapsigargin (TA, 0.1 μM) and actinomycin (Act D, 5 nM), respectively. The RNA was isolated and RT-PCR was performed to detect hnRNP K and ß-actin mRNA levels. The experiment was repeated at least twice.

Fig S5: The p53 protein level in the cells treated with hnRNP K or control siRNAs under normal and ER stress conditions. A representative western blot showing the levels of hnRNP K, p53 and GAPDH is shown.

Fig S6: Semi-quantitative RT-PCR showing overexpression of hnRNP K in MCF-7 cells under genotoxic stress conditions. (A) The cells were transfected with plasmid encoding hnRNP K-Flag (HK-F) or control plasmid encoding GFP. Then, 24 hours after transfection, the cells were exposed to doxorubicin (Dox, 0.5 μg/mL) for 24 hours. Total RNA was isolated and RT-PCR was performed to detect hnRNP K and ß-actin mRNA levels. The experiment was repeated at least twice. **(B)** Expression of GFP in HepG2 and MCF-7 cells after 24 and 48 hours under normal conditions. Visualization was performed by fluorescence microscope Leica DM IL LED.

Fig S7. Changes of p53 expression under ER stress in the presence of overexpressed hnRNP K in MCF-7 cells. Following plasmid transfection (plasmids: C or HK-F) the cells were treated with tunicamycin (TU, 1.2 μM) or thapsigargin (TA, 0.1 μM) for 24 hours. The levels of p53, hnRNP K and GAPDH were determined by western blots. The experiment was repeated twice.

Fig S8. Putative hnRNP K binding sites within the *TP53* gene promoter region and a part of the p53 coding sequence (nucleotides in positions -700 to -1 and those up to the second AUG codon, respectively). Sites for hnRNP K interactions are marked in red, CpG islands are underlined and described below the sequence. Binding sequence motifs for some proteins which regulate p53

expression at the transcriptional level are marked in green above or below their recognized sequence motifs [40]. The P0 and P1 transcription start sites are marked by arrows.

Table S1: Proteins that have been previously reported to interact with the 5'-terminal region of p53 mRNA. The table presents our MS data from representative RNA-centric affinity chromatography experiments for cell lines MCF-7, HepG2 and HT-29 and each of the tested conditions. The table shows the total numbers of peptide spectrum matches for each protein in a particular experiment.

Table S2: The 20 top candidate proteins' lists. The MS data from representative RNA-centric affinity chromatography experiments for cell lines MCF-7, HepG2 and HT-29 and each of the tested conditions are included in the table. The table shows total numbers of MS matches for each candidate protein. In the lists, hnRNP K is marked in red. Additionally, MS data for HMGB1 protein is marked in green and in the case of HepG2 cells, the positions of HMGB1 protein in the lists are indicated.

Fig S1

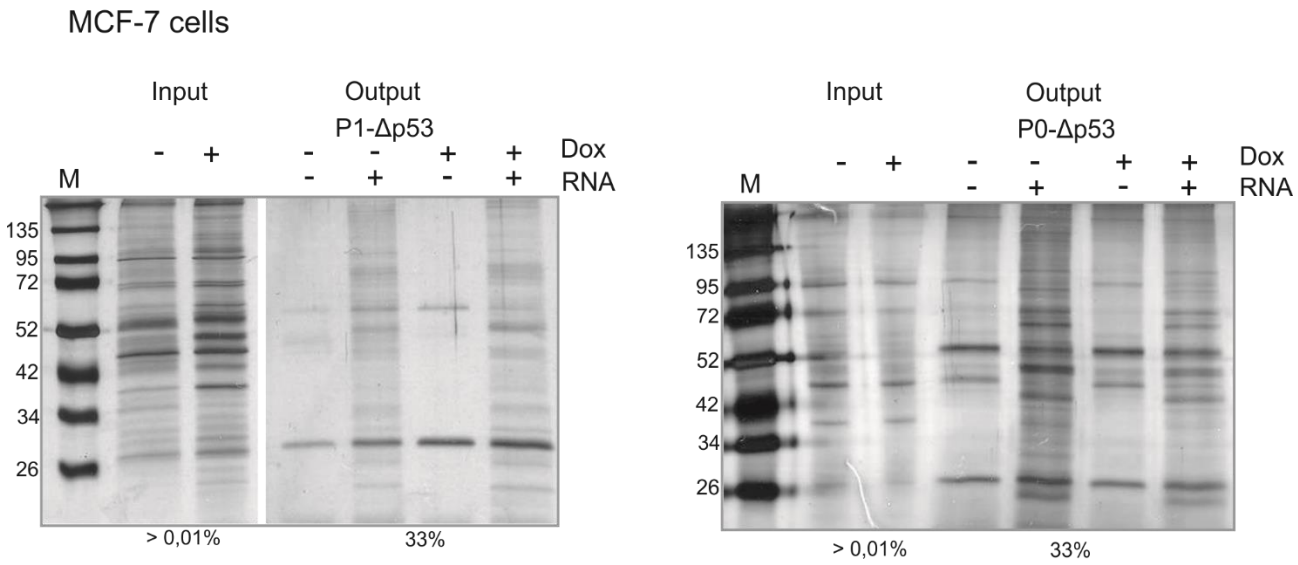

MCF-7 cells
Input
Output
P1-Δp53
Dox
RNA
M
135
95
72
52
42
34
26
> 0,01%
33%
Input
Output
P0-Δp53
Dox
RNA
M
135
95
72
52
42
34
26
> 0,01%
33%

Fig S2

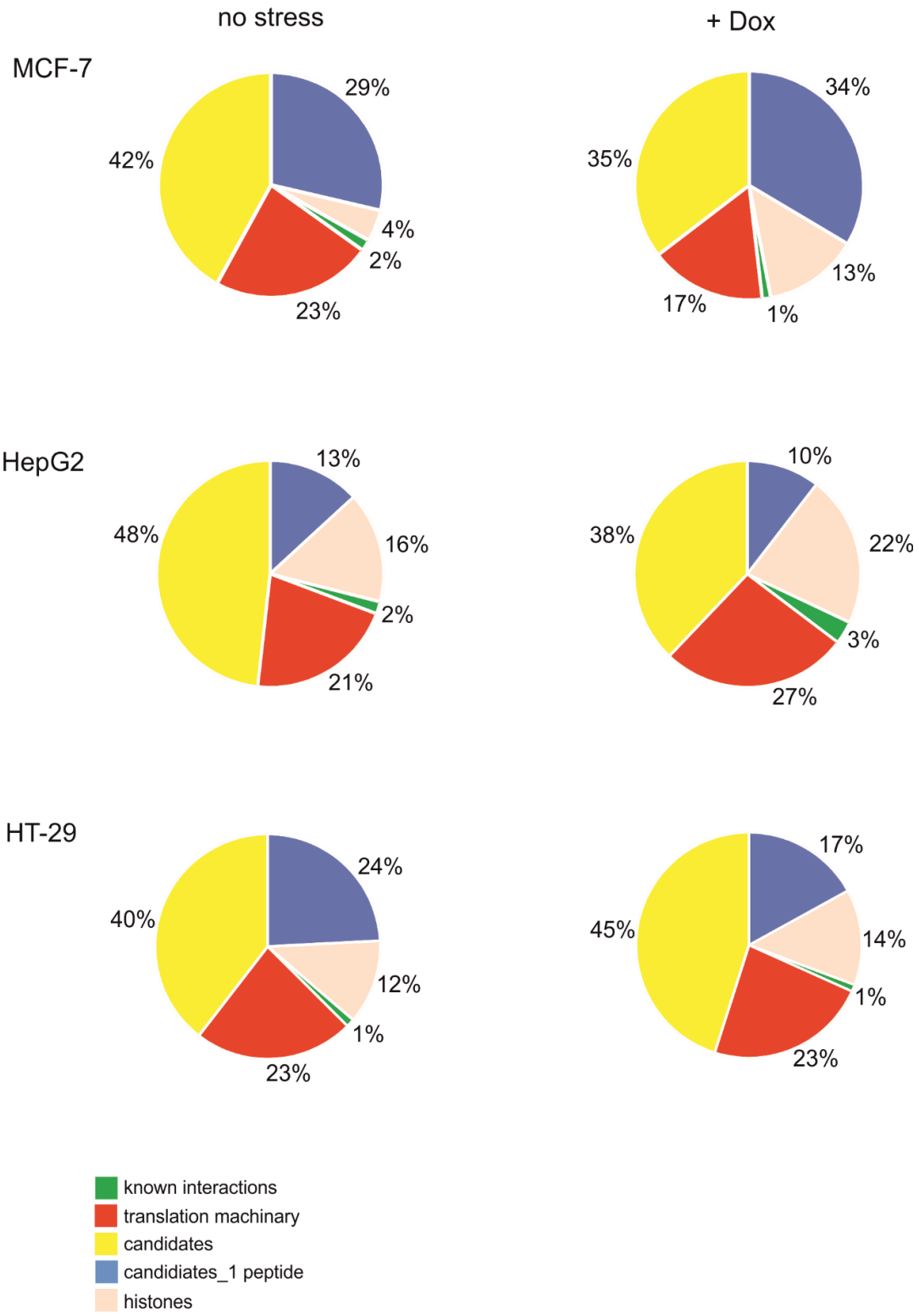

no stress
+ Dox
MCF-7
29%
42%
4%
2%
23%
34%
35%
13%
17%
1%
HepG2
13%
48%
16%
2%
21%
10%
38%
22%
3%
27%
HT-29
24%
40%
12%
1%
23%
17%
45%
14%
1%
23%
known interactions
translation machinary
candidates
candidiates_1 peptide
histones

Fig S3

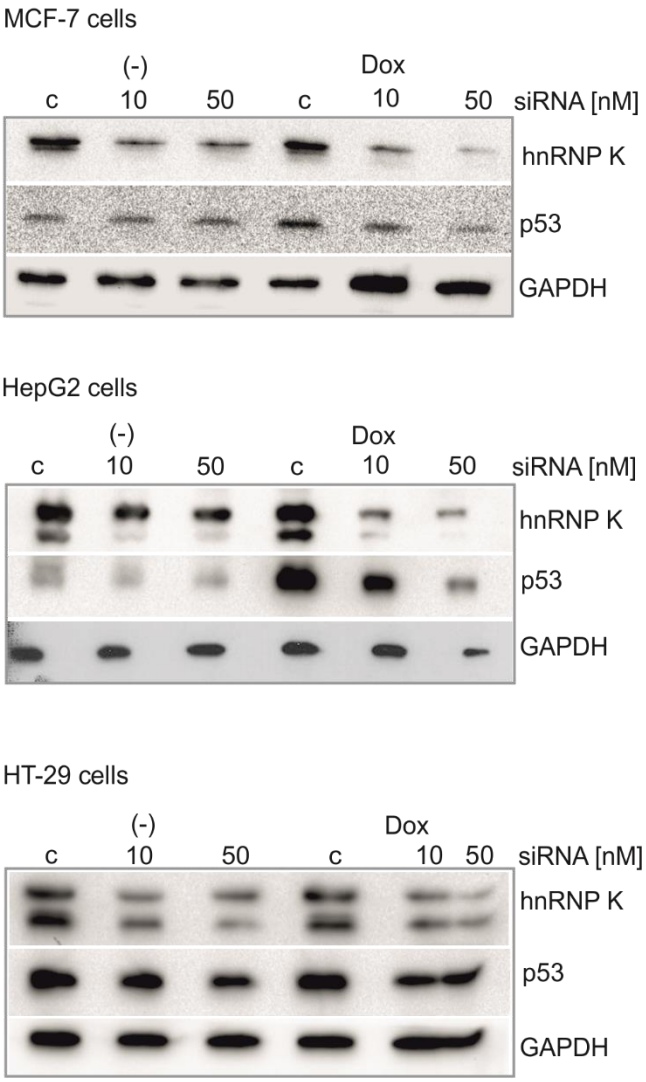

MCF-7 cells
(-)
Dox
c
10
50
c
10
50
siRNA [nM]
hnRNP K
p53
GAPDH
HepG2 cells
(-)
Dox
c
10
50
c
10
50
siRNA [nM]
hnRNP K
p53
GAPDH
HT-29 cells
(-)
Dox
c
10
50
c
10
50
siRNA [nM]
hnRNP K
p53
GAPDH

Fig S4

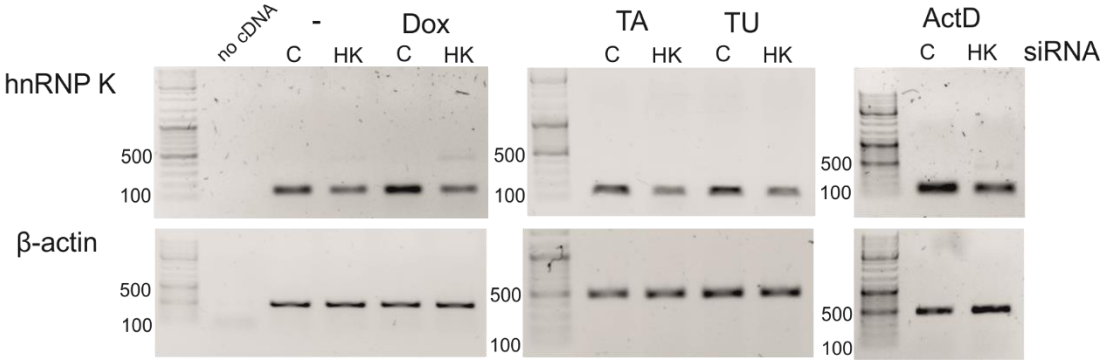

no cDNA
-
Dox
TA
TU
ActD
C
HK
C
HK
C
HK
C
HK
C
HK
siRNA
hnRNP K
β-actin
500
100
500
100
500
100
500
100
500
100
500
100

Fig S5

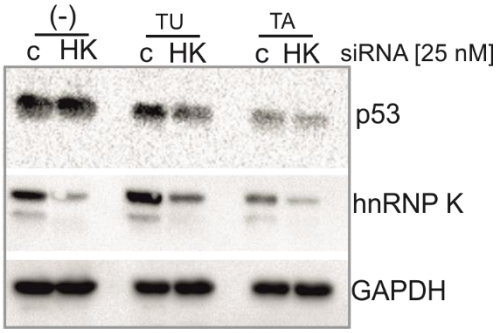
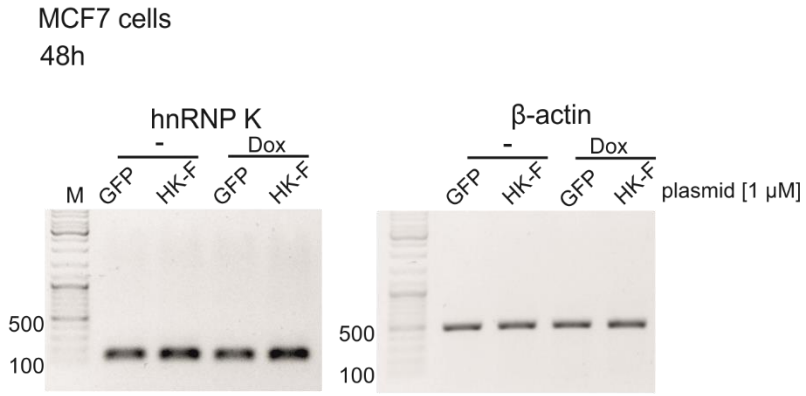


Fig S6

A


MCF7 cells
48h
hnRNP K
β-actin
-
Dox
M
GFP
HK-F
GFP
HK-F
GFP
HK-F
GFP
HK-F
plasmid [1 μM]
500
100
500
100

B

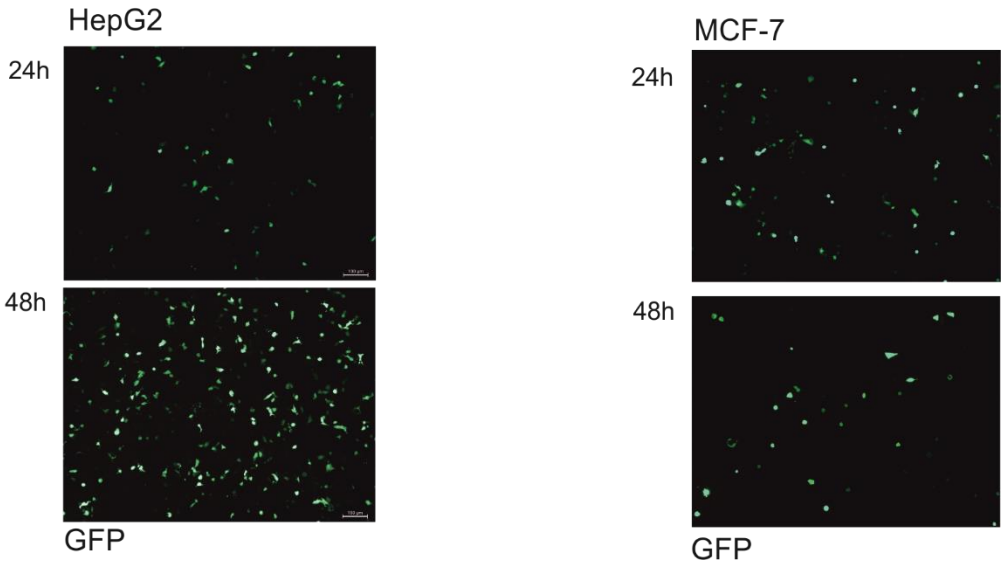

HepG2
24h
48h
GFP
MCF-7
24h
48h
GFP

Fig S7

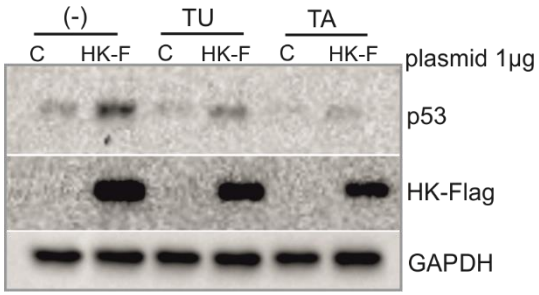


Fig S8


>TP53_1 -700 to 261
-700 TGCAGAGGGCGCAGCAGGTCTTGCACCTCTTCTGCATCTCATTCTCCAGGCTTCAGACCTGTCTCCCTCATTCAAAAAATATTTATTATCGAGCTCTTAC -601
CpG Island -1028 to -683
-600 TTGCTACCCAGCACTGATATAGGCACTCAGGAATACAACAATGAATAAGATAGTAGAAAAATTCTATATCCTCATAAGGCTTACGTTTCCATGTACTGAA -501
-500 AGCAATGAACAAATAAATCTTATCAGAGTGATAAGGGTTGTGAAGGAGATTAAATAAGATGGTGTGATATAAAGTATCTGGGAGAAAACGTTAGGGTGTG -401
BCL6
-400 ATATTACGGAAAGCCTTCCTAAAAAATGACATTTTAACTGATGAGAAGAAAGGATCCAGCTGAGAGCAAACGCAAAAGCTTTCTTCCTTCCACCCTTCAT -301
EBS
hnRNP K
-300 ATTTGACACAATGCAGGATTCCTCCAAAATGATTTCCACCAATTCTGCCCTCACAGCTCTGGCTTGCAGAATTTTCCACCCCAAAATGTTAGTATCTACG -201
AP1
hnRNP K
HOXA5
P0 YY1/NF1
-200 GCACCAGGTCGGCGAGAATCCTGACTCTGCACCCTCCTCCCCAACTCCATTTCCTTTGCTTCCTCCGGCAGGCGGATTACTTGCCCTTACTTGTCATGGC -101
p53/p73
NFkB and Btf(CPE)
hnRNP K
hPitx1
p53/p73
p53/p73
-100 GACTGTCCAGCTTTGTGCCAGGAGCCTCGCAGGGGTTGATGGGATTGGGGTTTTCCCCTCCCATGTGCTCAAGACTGGCGCTAAAAGTTTTGAGCTTCTC -1
P1
hPitx1
Myc/Max;USF
E2F1
+1 AAAAGTCTAGAGCCACCGTCCAGGGAGCAGGTAGCTGCTGGGCTCCGGGGACACTTTGCGTTCGGGCTGGGAGCGTGCTTTCCACGACGGTGACACGCTT 100
PAX
101 CCCTGGATTGGCAGCCAGACTGCCTTCCGGGTCACTGCCATGGAGGAGCCGCAGTCAGATCCTAGCGTCGAGCCCCCTCTGAGTCAGGAAACATTTTCAG 200
hnRNP K
201 ACCTATGGAAACTACTTCCTGAAAACAACGTTCTGTCCCCCTTGCCGTCCCAAGCAATGGA... 261

Table S1

Cell lines		MCF-7				HepG2				HT-29			
ID UniProtKB	Proteins	P1-Δ40p53		P0-Δ40p53		P1-Δ40p53		P0-Δ40p53		P1-Δ40p53		P0-Δ40p53	
		(-)	Dox	(-)	Dox	(-)	Dox	(-)	Dox	(-)	Dox	(-)	Dox
P19388	Nucleolin	61	62	70	100	108	129	105	86	91	113	89	93
P26599	PTB1	25	15	25	17	32	12	21	11	39	22	26	23
Q9UKA9	PTB2	4	-	6	2	4	3	2	2	4	3	2	3
O95758	PTB3	-	3	9	-	9	6	5	6	12	11	7	5
P07910	hnRNP C1/C2	2	1	1	-	-	-	-	3	1	-	1	-
P04637	p53	-	-	-	-	-	-	-	-	8	2	2	4

Table S2

MCF-7

P1-Δ40p53_no stress

No.	ID	Protein	MS spectra numbers
1	P61978	Heterogeneous nuclear ribonucleoprotein K	51
2	P12956	X-ray repair cross-complementing protein 6	45
3	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	37
4	Q12906	Interleukin enhancer-binding factor 3	35
5	P13010	X-ray repair cross-complementing protein 5	33
6	Q9UQ80	Proliferation-associated protein 2G4	32
7	Q12905	Interleukin enhancer-binding factor 2	30
8	Q15366	Poly(rC)-binding protein 2	29
9	P09651	Heterogeneous nuclear ribonucleoprotein A1	28
10	Q15365	Poly(rC)-binding protein 1	28
11	Q14103	Heterogeneous nuclear ribonucleoprotein D0	27
12	Q08211	ATP-dependent RNA helicase A	27
13	P05455	Lupus La protein	25
14	O95793	Double-stranded RNA-binding protein Staufen homolog 1	23
15	Q13283	Ras GTPase-activating protein-binding protein 1	22
16	P09429	High mobility group protein B1	22
17	O60506	Heterogeneous nuclear ribonucleoprotein Q	21
18	Q99729	Heterogeneous nuclear ribonucleoprotein A/B	19
19	P11940	Polyadenylate-binding protein 1	18
20	P51991	Heterogeneous nuclear ribonucleoprotein A3	17

P1-Δ40p53_dox

No.	ID	Protein	MS spectra numbers
1	Q15365	Poly(rC)-binding protein 1	43
2	P12956	X-ray repair cross-complementing protein 6	40
3	Q9UQ80	Proliferation-associated protein 2G4	39
4	P13010	X-ray repair cross-complementing protein 5	39
5	Q13283	Ras GTPase-activating protein-binding protein 1	38
6	P61978	Heterogeneous nuclear ribonucleoprotein K	33
7	P09429	High mobility group protein B1	29
8	Q15366	Poly(rC)-binding protein 2	26
9	Q12905	Interleukin enhancer-binding factor 2	25
10	Q08211	ATP-dependent RNA helicase A	25
11	O95793	Double-stranded RNA-binding protein Staufen homolog 1	22
12	P11940	Polyadenylate-binding protein 1	22
13	Q99729	Heterogeneous nuclear ribonucleoprotein A/B	21
14	P62826	GTP-binding nuclear protein Ran	21
15	Q14103	Heterogeneous nuclear ribonucleoprotein D0	19
16	P09651	Heterogeneous nuclear ribonucleoprotein A1-like 2	19
17	P09651	Heterogeneous nuclear ribonucleoprotein A1	19

18	P57721	Poly(rC)-binding protein 3	19
19	Q9BRP8	Partner of Y14 and mago	18
20	O60506	Heterogeneous nuclear ribonucleoprotein Q	18

P0-Δ40p53_no stress

No.	ID	Protein	MS spectra numbers
1	P12956	X-ray repair cross-complementing protein 6	84
2	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**79**
3	**P09429**	**High mobility group protein B1**	**75**
4	P13010	X-ray repair cross-complementing protein 5	65
5	P09651	Heterogeneous nuclear ribonucleoprotein A1	62
6	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	57
7	Q15365	Poly(rC)-binding protein 1	55
8	Q96AE4	Far upstream element-binding protein 1	53
9	Q13283	Ras GTPase-activating protein-binding protein 1	51
10	Q12906	Interleukin enhancer-binding factor 3	48
11	Q9UQ80	Proliferation-associated protein 2G4	46
12	P26583	High mobility group protein B2	46
13	O60506	Heterogeneous nuclear ribonucleoprotein Q	44
14	P17844	Probable ATP-dependent RNA helicase DDX5	39
15	Q15366	Poly(rC)-binding protein 2	34
16	P11940	Polyadenylate-binding protein 1	32
17	Q92841	Probable ATP-dependent RNA helicase DDX17	32
18	Q96I24	Far upstream element-binding protein 3	29
19	P05455	Lupus La protein	28
20	Q14103	Heterogeneous nuclear ribonucleoprotein D0	28

P0-Δ40p53_dox

No.	ID	Protein	MS spectra numbers
1	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**105**
2	Q96AE4	Far upstream element-binding protein 1	49
3	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	45
4	Q9UQ80	Proliferation-associated protein 2G4	36
5	P11940	Polyadenylate-binding protein 1	35
6	**P09429**	**High mobility group protein B1**	**33**
7	P09651	Heterogeneous nuclear ribonucleoprotein A1	30
8	P06748	Nucleophosmin	28
9	Q99729	Heterogeneous nuclear ribonucleoprotein A/B	27
10	Q92945	Far upstream element-binding protein 2	25
11	P62826	GTP-binding nuclear protein Ran	24
12	P12956	X-ray repair cross-complementing protein 6	24
13	O15347	High mobility group protein B3	20
14	Q12906	Interleukin enhancer-binding factor 3	15
15	P31943	Heterogeneous nuclear ribonucleoprotein H	14
16	P05455	Lupus La protein	13
17	Q14103	Heterogeneous nuclear ribonucleoprotein D0	12

18	Q13310	Polyadenylate-binding protein 4	10
19	O60506	Heterogeneous nuclear ribonucleoprotein Q	9
20	P27695	DNA-(apurinic or apyrimidinic site) lyase	9

HepG2

P1-Δ40p53_no stress

No.	ID	Protein	MS spectra numbers
1	P12956	X-ray repair cross-complementing protein 6	112
2	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**76**
3	Q12906	Interleukin enhancer-binding factor 3	73
4	P67809	Nuclease-sensitive element-binding protein 1	73
5	P09651	Heterogeneous nuclear ribonucleoprotein A1	61
6	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	58
7	P13010	X-ray repair cross-complementing protein 5	57
8	Q32P51	Heterogeneous nuclear ribonucleoprotein A1-like 2	50
9	P62826	GTP-binding nuclear protein Ran	49
10	Q14103	Heterogeneous nuclear ribonucleoprotein D0	43
11	O95793	Double-stranded RNA-binding protein Staufen homolog 1	40
12	P16989	Y-box-binding protein 3	40
13	Q9NZI8	Insulin-like growth factor 2 mRNA-binding protein 1	38
14	Q12905	Interleukin enhancer-binding factor 2	37
15	P46777	60S ribosomal protein L5	37
16	Q96AE4	Far upstream element-binding protein 1	34
17	Q9Y2T7	Y-box-binding protein 2	29
18	P51991	Heterogeneous nuclear ribonucleoprotein A3	29
19	P05455	Lupus La protein	27
20	Q92945	Far upstream element-binding protein 2	22

P1-Δ40p53_dox

No.	ID	Protein	MS spectra numbers
1	Q9NZI8	Insulin-like growth factor 2 mRNA-binding protein 1	51
2	P12956	X-ray repair cross-complementing protein 6	48
3	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	42
4	O95793	Double-stranded RNA-binding protein Staufen homolog 1	42
5	Q12906	Interleukin enhancer-binding factor 3	38
6	P09651	Heterogeneous nuclear ribonucleoprotein A1	38
7	P67809	Nuclease-sensitive element-binding protein 1	37
8	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**37**
9	Q14103	Heterogeneous nuclear ribonucleoprotein D0	36
10	Q32P51	Heterogeneous nuclear ribonucleoprotein A1-like 2	32
11	P62826	GTP-binding nuclear protein Ran	32
12	P13010	X-ray repair cross-complementing protein 5	28
13	P16989	Y-box-binding protein 3	24
14	O00425	Insulin-like growth factor 2 mRNA-binding protein 3	24
15	Q9Y2T7	Y-box-binding protein 2	21
16	P11940	Polyadenylate-binding protein 1	19

17	P51991	Heterogeneous nuclear ribonucleoprotein A3	19
18	Q96AE4	Far upstream element-binding protein 1	18
19	Q9Y6M1	Insulin-like growth factor 2 mRNA-binding protein 2	17
20	P06748	Nucleophosmin	16
.			-
25	**P09429**	**High mobility group protein B1**	**12**

P0-Δ40p53_no stress

No.	**ID**	**Protein**	**MS spectra numbers**
1	P12956	X-ray repair cross-complementing protein 6	105
2	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**94**
3	P67809	Nuclease-sensitive element-binding protein 1	62
4	Q9NZI8	Insulin-like growth factor 2 mRNA-binding protein 1	62
5	Q12906	Interleukin enhancer-binding factor 3	61
6	P09651	Heterogeneous nuclear ribonucleoprotein A1	58
7	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	55
8	Q96AE4	Far upstream element-binding protein 1	53
9	Q92945	Far upstream element-binding protein 2	47
10	Q32P51	Heterogeneous nuclear ribonucleoprotein A1-like 2	45
11	P13010	X-ray repair cross-complementing protein 5	44
12	Q14103	Heterogeneous nuclear ribonucleoprotein D0	43
13	O95793	Double-stranded RNA-binding protein Staufen homolog 1	43
14	P11940	Polyadenylate-binding protein 1	40
15	P16989	Y-box-binding protein 3	32
16	P62826	GTP-binding nuclear protein Ran	31
17	P51991	Heterogeneous nuclear ribonucleoprotein A3	31
18	Q12905	Interleukin enhancer-binding factor 2	30
19	P46777	60S ribosomal protein L5	29
20	Q9Y2T7	Y-box-binding protein 2	26

P0-Δ40p53_dox

No.	**ID**	**Protein**	**MS spectra numbers**
1	P12956	X-ray repair cross-complementing protein 6	87
2	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**55**
3	Q12906	Interleukin enhancer-binding factor 3	42
4	P67809	Nuclease-sensitive element-binding protein 1	40
5	P09651	Heterogeneous nuclear ribonucleoprotein A1	40
6	Q14103	Heterogeneous nuclear ribonucleoprotein D0	36
7	P13010	X-ray repair cross-complementing protein 5	35
8	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	33
9	Q9NZI8	Insulin-like growth factor 2 mRNA-binding protein 1	31
10	P62826	GTP-binding nuclear protein Ran	31
11	Q32P51	Heterogeneous nuclear ribonucleoprotein A1-like 2	31
12	Q96AE4	Far upstream element-binding protein 1	31
13	O95793	Double-stranded RNA-binding protein Staufen homolog 1	30
14	P16989	Y-box-binding protein 3	22
15	P11940	Polyadenylate-binding protein 1	21

16	Q92945	Far upstream element-binding protein 2	18
17	Q9Y2T7	Y-box-binding protein 2	16
18	Q12905	Interleukin enhancer-binding factor 2	15
19	P51991	Heterogeneous nuclear ribonucleoprotein A3	14
20	Q13310	Polyadenylate-binding protein 4	14
.			
22	**P09429**	**High mobility group protein B1**	**13**

-

HT-29

P1-Δ40p53_no stress

No.	**ID**	**Protein**	**MS spectra numbers**
1	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**103**
2	**P09429**	**High mobility group protein B1**	**96**
3	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	82
4	P09651	Heterogeneous nuclear ribonucleoprotein A1	75
5	B2RPK0	Putative high mobility group protein B1-like 1	74
6	Q32P51	Heterogeneous nuclear ribonucleoprotein A1-like 2	64
7	Q14103	Heterogeneous nuclear ribonucleoprotein D0	61
8	Q9UQ80	Proliferation-associated protein 2G4	56
9	P26583	High mobility group protein B2	49
10	Q96AE4	Far upstream element-binding protein 1	47
11	O60506	Heterogeneous nuclear ribonucleoprotein Q	45
12	P62826	GTP-binding nuclear protein Ran	41
13	Q15366	Poly(rC)-binding protein 2	36
14	Q13838	Spliceosome RNA helicase DDX39B	35
15	Q15365	Poly(rC)-binding protein 1	34
16	P17844	Probable ATP-dependent RNA helicase DDX5	29
17	Q13283	Ras GTPase-activating protein-binding protein 1	27
18	Q92945	Far upstream element-binding protein 2	27
19	Q92841	Probable ATP-dependent RNA helicase DDX17	27
20	Q14258	E3 ubiquitin/ISG15 ligase TRIM25	27

P1-Δ40p53_dox

No.	**ID**	**Protein**	**MS spectra numbers**
1	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**99**
2	**P09429**	**High mobility group protein B1**	**89**
3	P09651	Heterogeneous nuclear ribonucleoprotein A1	85
4	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	82
5	Q32P51	Heterogeneous nuclear ribonucleoprotein A1-like 2	75
6	B2RPK0	Putative high mobility group protein B1-like 1	67
7	Q9UQ80	Proliferation-associated protein 2G4	53
8	P26583	High mobility group protein B2	52
9	Q14103	Heterogeneous nuclear ribonucleoprotein D0	46
10	Q96AE4	Far upstream element-binding protein 1	43
11	P62826	GTP-binding nuclear protein Ran	41

12	P17844	Probable ATP-dependent RNA helicase DDX5	40
13	P12956	X-ray repair cross-complementing protein 6	38
14	O60506	Heterogeneous nuclear ribonucleoprotein Q	30
15	P06748	Nucleophosmin	29
16	P51991	Heterogeneous nuclear ribonucleoprotein A3	29
17	P67809	Nuclease-sensitive element-binding protein 1	26
18	Q15366	Poly(rC)-binding protein 2	23
19	P13010	X-ray repair cross-complementing protein 5	22
20	Q13838	Spliceosome RNA helicase DDX39B	22

P0-Δ40p53_no stress

No.	**ID**	**Protein**	**MS spectra numbers**
1	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**104**
2	**P09429**	**High mobility group protein B1**	**95**
3	B2RPK0	Putative high mobility group protein B1-like 1	69
4	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	67
5	P26583	High mobility group protein B2	64
6	P09651	Heterogeneous nuclear ribonucleoprotein A1	62
7	Q32P51	Heterogeneous nuclear ribonucleoprotein A1-like 2	53
8	Q14103	Heterogeneous nuclear ribonucleoprotein D0	42
9	Q96AE4	Far upstream element-binding protein 1	41
10	Q9UQ80	Proliferation-associated protein 2G4	36
11	O60506	Heterogeneous nuclear ribonucleoprotein Q	34
12	P62826	GTP-binding nuclear protein Ran	31
13	Q15365	Poly(rC)-binding protein 1	31
14	Q8NC51	Plasminogen activator inhibitor 1 RNA-binding protein	30
15	Q13283	Ras GTPase-activating protein-binding protein 1	29
16	Q15366	Poly(rC)-binding protein 2	28
17	P20290	Transcription factor BTF3	26
18	P12956	X-ray repair cross-complementing protein 6	21
19	P31943	Heterogeneous nuclear ribonucleoprotein H	21
20	Q13765	Nascent polypeptide-associated complex subunit alpha	21

P0-Δ40p53_dox

No.	**ID**	**Protein**	**MS spectra numbers**
1	**P09429**	**High mobility group protein B1**	**116**
2	**P61978**	**Heterogeneous nuclear ribonucleoprotein K**	**105**
3	B2RPK0	Putative high mobility group protein B1-like 1	89
4	P09651	Heterogeneous nuclear ribonucleoprotein A1	81
5	P22626	Heterogeneous nuclear ribonucleoproteins A2/B1	76
6	Q32P51	Heterogeneous nuclear ribonucleoprotein A1-like 2	68
7	P26583	High mobility group protein B2	56
8	Q96AE4	Far upstream element-binding protein 1	47
9	Q9UQ80	Proliferation-associated protein 2G4	44
10	Q14103	Heterogeneous nuclear ribonucleoprotein D0	41
11	P52597	Heterogeneous nuclear ribonucleoprotein F	34

12	O60506	Heterogeneous nuclear ribonucleoprotein Q	32
13	P62826	GTP-binding nuclear protein Ran	31
14	P17844	Probable ATP-dependent RNA helicase DDX5	30
15	Q15366	Poly(rC)-binding protein 2	29
16	P12956	X-ray repair cross-complementing protein 6	29
17	Q15365	Poly(rC)-binding protein 1	27
18	P51991	Heterogeneous nuclear ribonucleoprotein A3	26
19	P06748	Nucleophosmin	23
20	P23497	Nuclear autoantigen Sp-100	23