Supplementary Material

The RNF20/40 complex regulates p53-dependent gene transcription and mRNA splicing

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I. Supplementary Figures



Supplementary Figure S1. p53 was expressed and tightly associated with genomic DNA in response to DNA damage.

HCT116 cells were treated with or without UV-C (20 J/m2). After 8h, cells were lysed by NETN100 (lysis buffer with 100 mM NaCl) to obtain the soluble fraction. The pellets were further treated with NETN300 (lysis buffer with 300 mM NaCl) and 250 Units benzonase to extract the chromatin fraction. Both fractions were examined by Western blotting. GAPDH and histone H3 were used as a loading control for each fraction.



Supplementary Figure S2. Exogenous and endogenous p53 expression in HCT116 and K562 cells.

HCT116 and K562 cells were transfected stably with SFB-p53 plasmid. Following UV-C (20 J/m2), the expression levels of exogenous p53 and endogenous wild-type p53 in both K562 and HCT116 were determined by Western blot with anti-p53 antibody. Cells were lysed in NETN300 buffer. β -actin was used as the protein loading control.



Supplementary Figure S3. p53 interacts with RNF20 and RNF40.

HCT116 cells were transfected with HA-p53 and SFB-RNF20 or SFB-RNF20 (A) or HA-p53 and SFB-RNF40 or SFB-RNF40 (B). Cells were lyzed with NETN300 buffer. Cell extracts were examined by IP and Western blot with indicated antibodies using unspecific IgG as a negative control. (C and D) p53 associates with endogenous RNF20/40. HCT116 cells were treated with UV-C (20 J/m2). After 8 hours recovery, cells were lyzed with NETN300 buffer, and lysates were examined by IP and Western blot with indicated antibodies. GAPDH was used as the protein loading controls. (E) p53 -/- HCT116 cells were used to as a negative control to confirm the specificity of IP of p53 protein.



Supplementary Figure S4. Wild type p53 or the D5 mutant was expressed in HCT116 p53

-/- cells.

The expression was examined by Western blot.



Supplementary Figure S5. p53 mediates the recruitment of the RNF20/40 complex to the promoter region at *p21* loci in response to MMS treatment.

(A) DNA damage induces p53 and RNF20 to the *p21* gene promoter region. HCT116 cells were treated with or without 2mM MMS. After one hour, ChIP analyses on the *p21* locus were performed using anti-p53 and anti-RNF20 antibodies. An irrelevant IgG was used for a control shown as the dotted lines. Primers of *p21* used for q-PCR are included in Table S3. (B) ubH2B was enriched at the *p21* gene body region in response to MMS. ChIP analyses of H2B and ubH2B/H2B were included. (C) p53 mediates the recruitment of RNF20 at the promoter region of *p21*. HCT116 cells were transfected with another control siRNA (siNC), p53 siRNA and RNF20 siRNA respectively. ChIP analyses on the *p21* locus were performed. (D) Both p53 and RNF20 regulate ubH2B at the gene body region of *p21*. (E) RNF20 is not required for the recruitment of p53. Data are represented as mean ± SD as indicated from three independent experiments. N.S.: Non Significant; *: Statistically Significant (p < 0.05); **: Statistically Significant (p < 0.01); ***: Statistically Significant (p < 0.01).



Supplementary Figure S6. p53 mediates the recruitment of the RNF20/40 complex to the promoter region of *p21*.

p53 -/- HCT116 cells were performed by ChIP assay as a negative control for p53 +/+ HCT116. DNA damage induces p53 and RNF20 to the *p21* gene promoter region.HCT116 cells were treated with or without 2mM MMS. After one hour, ChIP analyses on the *p21* locus were performed using anti-p53 (A) or anti-RNF20 (B) antibodies. An irrelevant IgG was used for a negative control shown as the dotted lines. Q-PCR amplification regions are indicated in the schematic diagram. The sequences of each primer are shown in Supplemental Table S3. (C) ubH2B was enriched at the *p21* gene body region in response to DNA damage. ChIP analyses were performed with anti-ubH2B and anti-H2B antibodies. The relative enrichment of ubH2B was examined by the relative ratio of ubH2B vs H2B. Data are represented as mean \pm SD as indicated from three independent experiments. Significance of differences was evaluated by Student's t test. N.S.: Non-Significant; *: Statistically Significant (p < 0.05); **: Statistically Significant (p < 0.01); ***: Statistically Significant (p < 0.001).



Supplementary Figure S7. p53 mediates the recruitment of the RNF20/40 complex to the promoter region at *PUMA* loci in HCT116 cells.

(A) DNA damage induces p53 and RNF20 to the *PUMA* gene promoter region. HCT116 cells were treated with or without UV-C (20 J/m2). After 8 hours recovery, ChIP analyses on the *PUMA* locus were performed using anti-p53 and anti-RNF20 antibodies. An irrelevant IgG was used for a control shown as the dotted lines. Primers of *PUMA* used for q-PCR are included in Table S4. (B) ubH2B was enriched at the *PUMA* gene body region in response to DNA damage. ChIP analyses of H2B and ubH2B/H2B were included. (C) P53 mediates the recruitment of RNF20 at the promoter region of *PUMA*. HCT116 cells were transfected with control siRNA (siNC), p53 siRNA and RNF20 siRNA respectively. ChIP analyses on the *PUMA* locus were performed. (D) Both p53 and RNF20 regulate ubH2B at the gene body region of *PUMA*. (E) RNF20 is not required for the recruitment of p53. (F) The CTD of p53 is required for the recruitment of RNF20. Full length p53 and the D5 mutant were expressed in HCT116 p53 -/- cells. ChIP analyses on RNF20 were performed. Data are represented as mean \pm SD as indicated from three independent experiments. N.S.: Non Significant; *: Statistically Significant (p < 0.05); **: Statistically Significant (p < 0.01); ***: Statistically Significant (p < 0.001).



Supplementary Figure S8. The RNF20/40 complex regulates *p21* pre-mRNA maturation in response to DNA damage.

HCT116 cells were transfected with the indicated another siRNA followed by UV-C (20 J/m²). After 8 hours, mature mRNA(A) and pre-mRNA(B) of *p21* were examined by q-PCR. (C) RNF20 plays an important role in *p21* pre-mRNA processing in response to UV treatment. The fold changes of pre-mRNA vs. mature mRNA were compared. Lacking RNF20 induces relatively increased pre-mRNA of *p21* in HCT116 cells. We did the same assay followed by 2mM MMS in replacement of UV treatment. After 1 hours, mature mRNA(C) and pre-mRNA. (D) of *p21* were examined by q-PCR. (E) RNF20 plays an important role in *p21* pre-mRNA and mature mRNA(F) processing in response to MMS treatment. (G) The CTD mutation (D5) of p53 affects mRNA splicing of *p21*. The primer sequences for q-PCR at *p21* loci have been included in Supplemental Table S5. Data are represented as mean \pm SD as indicated from three independent experiments. N.S.: Non-Significant; *: Statistically Significant (p < 0.01); ***: Statistically Significant (p< 0.001).



Supplementary Figure S9. The RNF20/40 complex regulates *PUMA* pre-mRNA maturation.

HCT116 cells were transfected with the indicated siRNA followed by UV-C (20 J/m²). After 8 hours recovery, mature mRNA (A) and pre-mRNA (B) of *PUMA* were examined by q-PCR. (C) RNF20 plays an important role in *PUMA* pre-mRNA processing in HCT116 cells. The fold changes of pre-mRNA vs. mature mRNA were compared. Lacking RNF20 induces relatively increased pre-mRNA of *PUMA* in HCT116 cells. The primer sequences for q-PCR at *PUMA* loci have been included in Supplemental Table S6. Data are represented as mean \pm SD as indicated from three independent experiments. *N.S.*: Non-Significant; *: Statistically Significant (*p* < 0.05); **: Statistically Significant (*p* < 0.01); ***: Statistically Significant (*p* < 0.001).



Supplementary Figure S10. ubH2B mediates the recruitment of PRPF8 for the pre-mRNA processing of *PUMA* in HCT116 cells.

(A) PRPF8 is recruited to the gene body of *PUMA* upon DNA damage. HCT116 cells were treated with or without UV-C (20J/m²). ChIP analyses at the *PUMA* locus were performed using anti-PRPF8 antibodies. An irrelevant IgG was used for negative control presented as the dotted lines. Primers used for q-PCR are included in Supplemental Table S4. (B) Downregulation of p53 or the RNF20/40 complex by siRNA impairs the enrichment of PRPF8 at the gene body region of *PUMA* in HCT116 cells. (C) The I2105A/I2106A mutant of PRPF8 (mutPRPF8) impairs the enrichment of PRPF8 at the gene body region of *PUMA*. (D) MutPRPF8 impairs the pre-mRNA processing of *PUMA*. HCT116 cells were treated with indicated siRNA. Full length PRPF8 or mutPRPF8 were re-introduced into the cells. The cells were treated with UV-C (20 J/m²). The relative changes of pre-mRNA vs. mature mRNA of *PUMA* were examined by q-PCR. The primer sequences have been included in Supplemental Table S6. (E) The expressions of PRPF8 and mutant PRPF8 were examined by western blot. Data are represented as mean ± SD as indicated from three independent experiments. *: Statistically Significant (*p* < 0.05); **: Statistically Significant (*p* < 0.01); ***: Statistically Significant (*p* < 0.001).



Supplementary Figure S11. PRPF8 impairs the pre-mRNA processing of *p21* in HCT116 cells.

(A) PRPF8 is recruited to the gene body of *p21* upon MMS induced DNA damage. HCT116

cells were treated with or without 2 mM MMS. ChIP analyses at the *p21* locus were performed using anti-PRPF8 antibodies. An irrelevant IgG was used for negative control presented as the dotted lines. Primers used for q-PCR are included in Supplemental Table S3. (B) p53-/-HCT116 cells were used in ChIP assay as a control for p53+/+ HCT116. (C) Downregulation of p53 or the RNF20/40 complex by another siRNA impairs the enrichment of PRPF8 at the gene body region of *p21* in HCT116 cells. (D) The I2105A/I2106A mutant of PRPF8 (mutPRPF8) impairs the enrichment of PRPF8 at the gene body region of *p21* in response to MMS. (E) MutPRPF8 impairs the pre-mRNA processing of *p21*. HCT116 cells were treated with indicated siRNA. Full length PRPF8 or mutPRPF8 were re-introduced into the cells. The cells were treated with 2 mM MMS. The relative changes of pre-mRNA vs. mature mRNA of *p21* were examined by q-PCR. The primer sequences have been included in Supplemental Table S5. Data are represented as mean ± SD as indicated from three independent experiments. *: Statistically Significant (p < 0.05); **: Statistically Significant (p < 0.01); ***: Statistically Significant (p < 0.001).



Supplementary Figure S12. DHX8 impairs the pre-mRNA processing of *p21* in HCT116 cells.

(A) Both of PRPF8 and mutPRPF8 associate with endogenous DHX8. HCT116 cells were transfected with FLAG-PRPF8 or FLAG-mut PRPF8. Cells were lyzed with NETN300 buffer. Cell extracts were examined by Co-IP and Western blot with indicated antibodies using unspecific IgG as a negative control. (B) DHX8 is recruited to the gene body of p21 upon DNA damage. HCT116 cells were treated with or without 2mM MMS. ChIP analyses at the p21 locus were performed using anti-DHX8 antibodies. An irrelevant IgG was used for

negative control presented as the dotted lines. Primers used for q-PCR are included in Supplemental Table S3. (C) Downregulation of p53 or the RNF20/40 complex by siRNA impairs the enrichment of DHX8 at the gene body region of *p21* in HCT116 cells. (D) DHX8 impairs the pre-mRNA processing of *p21*. HCT116 cells were treated with indicated siRNA. The cells were treated with 2mM MMS. The relative changes of pre-mRNA vs. mature mRNA of *p21* were examined by q-PCR. The primer sequences have been included in Supplemental Table S5. Data are represented as mean ±SD as indicated from three independent experiments. *: Statistically Significant (p < 0.05); **: Statistically Significant (p < 0.01); ***: Statistically Significant (p < 0.001). (D) Both of PRPF8 and mutPRPF8 associate with endogenous DHX8. cells were lyzed with NETN300 buffer, and lysates were examined by IP and Western blot with indicated antibodies. GAPDH was used as the protein loading controls.

II. Supplementary tables

Supplementary Table S1. Affinaty purification and mass spectrometry analysis of p53 in

HCT116 cell.

12870.2 V Lookup V	scanf		R: 🗆	H:[Sequen	ce:			XCorr 1+	0	Rank ((1 to :	n):
○ peptide ● reference	Rank		R: 🗆	H: [□ Peptide	type:	tryptic	\checkmark	XCorr 2+	0	Low P	PM1	:
Group 2/3+	Rank_Sp charge	-	R: 🗆	H:[□ AA typ	e:	acidic	\sim	XCorr 3+	0	High H	PPM1	:
□ Use best ion	lons		R: 🗆	H:[Mod A	A type	acidic	\sim	XCorr 4+	0	Low C	alPP	M:
	premass M H	~	/						dCn:		High (CalPF	PM:
	mass_diff								dCn2.		Vista S	Score	
									GCH2.		Пні	de du	mlicate pentides
		_										ue ue	private peptides
Protein matches			scanf	Ranl	charge I	ons	dCn dC	n2 XCorr	Reference		R	edu	Peptide
57 67 3.754 0.00 UPSP:PAI	C HUMAN	<u> </u>	2686	1		4/36	0.2775.0.2	097 <u>5.1340</u>	UPSP:PARC	HUMA	N 0		K.ELFIEDPSPAISILVLSPK.C
58 58 5.512 0.00 UPSP:CO	A1 HUMAN		2774	1		<u>4/20</u>	0.5775 0.2	027 5 4201	UPSP:PARC		<u>N</u> 0		K.FNQTEEVSVETLLK.D
20 20 3 226 0 00 UPSP:P53	HIMAN		0826	1	2 2	0/152	0.3057.0.3	8057 3 0963	UPSP-PARC	HUMA	N 5	-	K GLOHEPAGVSGSEPP D
13 13 3 805 0 00 UPSP BRI	FIA HUMAN		1913	1	2 1	1/12	0.0615.0.0)615 2 0079	UPSP-PARC	HUMA	N 5	1	K I I FSI VK R
11 11 3.989 0.00 UPSP MC	CC2 HUMAN		0474	1	2 1	1/12	0.1001.0.1	001 2.5396	UPSP:PARC	HUMA	N 5	1	K.LYEHLOR.A
11 11 3.595 0.00 UPSP:NU	CL HUMAN		1758	1	2 2	23/32	0.3173 0.3	3173 5.0465	UPSP:PARC	HUMA	N 5	1	K.M*LAVASSSEIPTFVTGR.D
8 8 4.158 0.00 UPSP:MC	CA HUMAN		0551	1	2 2	2/24	0.3530 0.3	3530 4.2118	UPSP:PARC	HUMA	<u>N</u> 5		K.M*LQALAAHDAGSR.A
8 8 3.784 0.00 UPSP:BR	E1B HUMAN		1589	1	2 2	2/24	0.4172 0.4	4172 4.9854	UPSP:PARC	HUMA	N 4		K.M*LVELLTNQVGEK.M
7 7 3.410 0.00 UPSP:FB2	KW8_HUMAN		0768	1	2 1	3/14	0.3182 0.3	3182 <u>2.6531</u>	UPSP:PARC	HUMA	<u>N</u> 4		K.M*VVVQALR.L
6 6 3.861 0.00 UPSP:PYC	<u>HUMAN</u>		<u>1947</u>	1	2 2	23/32	<u>0.5213</u> 0.5	5213 <u>4.7461</u>	UPSP:PARC	HUMA	<u>N 5</u>		K.MLAVASSSEIPTFVTGR.D
6 3.557 0.00 UPSP:HN	RPU_HUMAN		<u>1897</u>	1	2 2	21/24	<u>0.4335</u> 0.4	4335 <u>4.7777</u>	UPSP:PARC	HUMA	<u>N 4</u>	1	K.MLVELLTNQVGEK.M
6 6 2.892 0.00 UPSP:RS2	HUMAN		<u>1094</u>	1	<u>2</u> <u>1</u>	4/14	<u>0.0998</u> 0.0	998 <u>1.9294</u>	UPSP:PARC	HUMA	<u>N</u> <u>4</u>]	K.MVVVQALR.L
5 5 4.181 0.00 UPTR:Q5	9FY4 HUMAN		<u>0652</u>	1	<u>2</u> <u>1</u>	4/16	<u>0.1137</u> 0.1	137 <u>2.3118</u>	UPSP:PARC	HUMA	<u>N</u> <u>3</u>]	K.NLDETLGEK.A
5 5 4.027 0.00 <u>UPSP:HSI</u>	PTC_HUMAN		<u>2270</u>	1	<u>3</u> <u>2</u>	27/56	<u>0.3364</u> 0.3	3364 <u>3.9926</u>	UPSP:PARC	HUMA	<u>N</u> <u>6</u>	1	K.QILHVSTVQM*WLLLK.F
5 5 3.912 0.00 UPSP:RL	<u>A0_HUMAN</u>		<u>1956</u>	1	<u>2</u> 1	3/14	<u>0.1423</u> 0.1	423 <u>2.5488</u>	UPSP:PARC	HUMA	<u>N</u> 5		K.TLLLSVLR.V
5 5 3.854 0.00 <u>UPSP:DE0</u>	<u>CR_HUMAN</u>		<u>2157</u>	1	<u>3</u> 4	1/120	<u>0.5460</u> 0.5	5460 <u>5.7755</u>	UPSP:PARC	HUMA	<u>N</u> 6		K.TRTETPM*AQSDSQLFNQLLVT
5 3.635 0.00 <u>UPSP:RL</u>	A HUMAN		<u>1579</u>	1	2 2	2/26	<u>0.3391</u> 0.3	3391 <u>4.5833</u>	UPSP:PARC	HUMA	<u>N 5</u>	1	K.TSVLVQQAGLAALK.M
4 4.267 0.00 <u>UPSP:NP</u>	<u>M_HUMAN</u>		<u>0896</u>	1	<u>2</u> 1	8/28	<u>0.3943</u> 0.3	3943 <u>3.6828</u>	UPSP:PARC	HUMA	<u>N 6</u>		K.YGLLSNEPSSSSTSR.N
4 3.858 0.00 UPTR:Q7	<u>2561_HUMAN</u>		1489	1	2 1	3/14	0.1760 0.1	1760 <u>3.1445</u>	UPSP:PARC	<u>HUMA</u>	<u>N</u> 5		R.AAFM*LALR.S
4 3.570 0.00 UPTR:Q6	NXR8_HUMAN		2036	1	2 2	27/38	0.6230 0.6	5230 <u>5.5953</u>	UPSP:PARC	<u>HUMA</u>	<u>N</u> 5		R.AALETPHQGQDGSPELLIR.S
4 4 3.565 0.00 <u>UPSP:RL</u>	<u>HUMAN</u>		0709	1	2 1	0/12	0.1102 0.1	$102 \frac{2.3493}{2.7715}$	UPSP:PARC	HUMA	<u>N</u> 6	-	R.AELQFGK.Q
3 3 3.674 0.00 <u>UPTR:Q5.</u>	SHVI_HUMAN		1262	1	<u>∠</u> <u>1</u>	4/10	0.2005 0.2	2005 2.7715	UPSP:PARC	HUMA		-	R.AUSELFUPK.A
3 3 3.646 0.00 <u>UPSP:PCC</u> 3 3 3.580 0.00 UDSD:USI	DI HUMAN		1601	1	2 2	1/04	0.2020.0.2	1415 <u>5.2161</u>	UPSP:PARC				R.AHVLLSLSQQDGIEQHMDEDSI
3 3 3 272 0 00 UPSP:ECI	TA HUMAN		0866	1	2 1	5/20	0.2777.0.3	020 <u>3.3432</u>	UPSP-PARC		N 6	-	R ATVSSPEVISK V
3 3 3 260 0 00 UPSP:RL	HIMAN		0777	1	2 1	1/12	0.2084.0.2	2084 2 3872	UPSP-PARC	HUMA	N 5	1	R APDEVPR V
3 2.985 0.00 UPSP:RS2	4 HUMAN		1875	1	3 3	7/84	0.3394 0.3	3394 3.7283	UPSP:PARC	HUMA	N 5	1	R.DPGGLDEVAM*GEM*EADVOA
3 3 2.972 0.00 UPSP:H12	HUMAN		2448	1	2 2	28/42	0.1611 0.5	5789 6.0230	UPSP:PARC	HUMA	N 5		R.DPGGLDEVAM*GEMEADVOAI
2 2 4.698 0.00 UPSP:RL0	5 HUMAN		1040	1	2 2	21/30	0.3137 0.3	3137 4.2542	UPSP:PARC	HUMA	N 5	1	R.DRSPAPSPVLPSSSLR.N
2 4.546 0.00 UPSP:TBA	A6_HUMAN		1301	1	3 2	28/48	0.3355 0.3	3355 <u>3.9003</u>	UPSP:PARC	HUMA	<u>N 5</u>	1	R.DSIHSLFDAQM*TR.E
2 2 4.427 0.00 UPSP:TB/	A2_HUMAN		1118	1	2 8	3/12	0.0295 0.0)295 <u>1.7661</u>	UPSP:PARC	HUMA	<u>N 6</u>		R.EFAVNLR.N
2 2 4.410 0.00 <u>UPSP:GR</u>	P78_HUMAN		<u>0758</u>	1	2 1	4/24	<u>0.3043</u> 0.3	3043 <u>3.0644</u>	UPSP:PARC	HUMA	<u>N 5</u>		R.EGSPGGAVRPLLK.R
2 2 4.378 0.00 UPTR:Q9	6FW6_HUMAN		<u>2133</u>	1	2 2	2/32	<u>0.5575</u> 0.5	5575 <u>4.2857</u>	UPSP:PARC	HUMA	<u>N 6</u>]	R.FEGSTLNDLLNSQIYTK.Y
2 2 4.218 0.00 UPSP:G31	HUMAN		<u>1299</u>	1	<u>2</u> <u>1</u>	1/12	<u>0.1934</u> 0.1	934 <u>2.4670</u>	UPSP:PARC	HUMA	<u>N 5</u>]	R.FLAAAWR.A
2 2 3.875 0.00 <u>UPSP:RL</u>	HUMAN		<u>1065</u>	1	<u>3</u> <u>3</u>	<u>85/76</u>	<u>0.4500</u> 0.4	4500 <u>4.2533</u>	UPSP:PARC	HUMA	<u>N</u> <u>6</u>]	R.FSSFYSQSQNHPVLDM*GPHR.I
2 3.661 0.00 <u>UPTR:Q9</u>	BS10 HUMAN		<u>2433</u>	1	3 2	27/60	<u>0.4729</u> 0.4	729 <u>4.5919</u>	UPSP:PARC	HUMA	<u>N 5</u>]	R.GVEVLGPKPTFWPLFR.E
2 2 3.620 0.00 <u>UPTR:Q6</u>	IPX9 HUMAN		1007	1	<u>2</u> <u>1</u>	5/22	0.4728 0.4	728 <u>2.9748</u>	UPSP:PARC	HUMA	<u>N</u> 5		R.HAGDLM*VPLGPR.L
2 3.554 0.00 <u>UPSP:RL2</u>	<u>HUMAN</u>		<u>1681</u>	1	2 2	21/24	0.4381 0.4	4381 <u>4.1353</u>	UPSP:PARC	HUMA	<u>N 6</u>		R.LLAILQHSAQDFR.V
2 3.378 0.00 UPSP:SYI	C HUMAN		1063	1	<u>4</u> <u>1</u>	0/14	0.4086 0.0	1086 5 7040	UPSP:PARC	HUMA	<u>N</u> 4	-	K.LLYLLM*IK.H
2 3.248 0.00 UPTR:Q5	NOSS HUMAN		2111	1	2 2	1/32	0.4986 0.4	1036 5 6192	UPSP:PARC	HUMA		-	R.LFQLM*LQSLSTSEELQR.Q
2 2 3.055 0.00 <u>OPTR:Q9</u>	3 1		1497	1	2 4	5/19	0.1706.0.1	706 2 4245	UPSP-DARC	HUMA	N 5	-	R. L. QLWILQSLSTSEELQK.Q
2 2.950 0.00 GF.M172	HIMAN		2461	1	2 2	21/24	0.3515.03	3515 5 0070	UPSP-PAPC	HUMA	N 5	-	R LOOFTOPFLLLP T
1 6.738 0.00 UPTR 06	LC01 HUMAN		2028	1	<u>← </u> <u>↓</u>	1/14	0.1161.0.1	161 2 3831	UPSP:PARC	HUMA	N 6	-	R LOWTWIGR A
1 1 5.678 0.00 UPSP TCI	PE HUMAN		1593	1	± 1 3 1	9/32	0.1115.01	115 3.0142	UPSP:PARC	HUMA		1	R.OFHLFOLOR.L
1 5.396 0.00 UPSP AP	B1 HUMAN		2137	1	2 1	5/34	0.1993 0 1	993 2.3199	UPSP:PARC	HUMA	N 4	1	R.OSNNGIPPVOVFWOSTGR.T
1 1 5.307 0.00 UPSP:MA	GB2 HUMAN		0926	1	2 1	0/12	0.1182 0.1	182 2.1793	UPSP:PARC	HUMA	N 5	1	R.ROGWVFR.Q
1 5.195 0.00 UPSP:RS6	HUMAN		2516	1	2 1	9/34	0.3608 0.3	3608 3.4220	UPSP:PARC	HUMA	N 5		R.SGEALWLIPPQAYLNVEK.D
1 4.952 0.00 UPSP:RL	4 HUMAN		2384	1	2 1	8/42	0.3999 0.3	3999 <u>3.8902</u>	UPSP:PARC	HUMA	N 5	1	R.SGEALWLIPPQAYLNVEKDEGI
1 4.905 0.00 UPSP:RL9	HUMAN		2363	1	3 3	30/92	0.5139 0.5	5139 <u>4.353</u> 4	UPSP:PARC	HUMA	<u>N</u> 5	1	R.SGFSGALLQQSFLTAAHM*SEQ
1 4.742 0.00 UPTR:06	NZ54 HUMAN		1256	1	2 1	9/30	0.4830 0.4	1830 4 5462	UPSP-PARC	HUMA	N 5		R SGYGEYVOOTLOPGM*R V
		Second Second			_			1000 1.0102	OI DI A MICC		<u> </u>		LEBOTOLI I QUI LOI III III

1.1	4 645 0 00 UPTR 075147 HUMAN	1417	1 2	18/30 0 4068 0 4068 4 1901 UPSP PARC HUMAN 5 R SGVGEV VOOTLOPGMR V
1 1	4 612 0 00 UPSP SDPR HUMAN	2694	1 2	27/42 0.4596 0.4596 5.9261 UPSP-PARC HUMAN 5 R SIFOPYISGPSLL PTIVTTPR R
11	4 588 0 00 UPSPI A HUMAN	2399	1 2	22/30 0 5176 0 5176 4 8656 UPSP-PARC HUMAN 5 R SI VGGPSAFLLI DI FR V
1 1	4 567 0.00 UPSP RL10 HUMAN	1102	1 2	15/26 0.3395 0.3395 2.8862 UPSP-PARC HUMAN 5 R SPAPSPVLPSSSLR N
1 1	4 538 0 00 UPTR 05IR95 HUMAN	2743	1 2	22/28 0 4458 0 4458 4 2121 UPSP-PARC HUMAN 6 R THOPINIPEEDVELR H
1 1	4.478 0.00 UPSP:RS17 HUMAN	1984	1 2	15/16 0.2533 0.2533 2.5277 UPSP:PARC HUMAN 5 R.TILM*M*LLNR.Y
1 1	4.405 0.00 UPTR:06ICO4 HUMAN	2355	1 2	14/16 0.1423 0.2890 2.5961 UPSP:PARC HUMAN 5 R.TILM*MI LNR.Y
1 1	4.402 0.00 GP:X60020 1	0392	1 2	13/16 0.2646 0.2646 2.4141 UPSP:PARC HUMAN 5 R.TLDAPGPNK.T
1 1	4.319 0.00 UPSP:MDM2 HUMAN	0643	1 2	17/22 0.3606 0.3606 3.4825 UPSP:PARC HUMAN 6 R.TM*SPOEVEGLM*K.O
1 1	4.301 0.00 UPSP:COA2 HUMAN	1116	1 2	15/22 0.2830 0.2830 2.4627 UPSP:PARC HUMAN 6 R.TM*SPOEVEGLMK.O
1 1	4.270 0.00 UPTR:059FS3 HUMAN	1461	1 2	18/26 0.5004 0.5004 5.1485 UPSP:PARC HUMAN 6 R.VGLOSPSVEAWEAK.G
1 1	4.235 0.00 UPTR:053G49 HUMAN	1514	1 2	15/16 0.2018 0.2018 3.1822 UPSP:PARC HUMAN 4 R.VILLENLNR.F
1 1	4.166 0.00 UPSP:IF2G HUMAN	0562	1 2	18/20 0.4409 0.4409 3.8727 UPSP:PARC HUMAN 6 R.VSAIHEVPPPR.S
1 1	4.087 0.00 UPSP:DDX1 HUMAN	2022	1 3	37/96 0.3624 0.3624 4.7703 UPSP:PARC HUMAN 5 R.YIDOOIOGGLIGGAPGVEM*LG
1 1	4.082 0.00 UPSP:DBPA_HUMAN	2348	1 3	34/96 0.3643 0.3643 4.2653 UPSP:PARC HUMAN 5 R.YIDOOIOGGLIGGAPGVEMLGC
1 1	4.054 0.00 UPSP:H2B1B HUMAN	0462	1 2	16/18 0.3093 0.3093 2.9897 UPSP:CUL7 HUMAN 2 K.AAHVSEOFAR.H
1 1	4.007 0.00 UPTR:06PB27 HUMAN	0544	1 2	16/24 0.3670 0.3670 2.6332 UPSP:CUL7 HUMAN 2 K.EPPSOSPNTPLOR L
11	3.998 0.00 UPSP:TCPD_HUMAN	0543	1 2	12/12 0.2714 0.2714 2.4605 UPSP:CUL7 HUMAN 2 K.HLDEDSR C
1 1	3.985 0.00 UPSP:SYD_HUMAN	2122	1 3	33/68 0.4324 0.4
1 1	3.880 0.00 UPTR:06IRZ0 HUMAN	0705	1 1	13/18 0.2454 0.2454 2.2170 UPSP:CUL7 HUMAN 2 K.IOVGLGASGK.E
1 1	3.879 0.00 UPSP:HSP72 HUMAN	0584	1 2	16/20 0.3596 0.3596 3.0684 UPSP:CUL7 HUMAN 2 K.KIOVGLGASGK.E
1 1	3.840 0.00 UPTR:O5VTE0 HUMAN	2500	1 3	35/128 0.3877 0.3877 4.2002 UPSP:CUL7 HUMAN 2 K.KYGPEALAGNOAYPSLLEAOE
1 1	3.765 0.00 UPSP:KC1AL HUMAN	1229	1 2	13/14 0.0853 0.0853 3.3701 UPSP:CUL7 HUMAN 2 K.LELAOELR.D
1 1	3.671 0.00 UPSP:HSP76 HUMAN	1318	1 2	28/46 0.5589 0.5589 6.0018 UPSP:CUL7 HUMAN 2 K.M*LGEDGOVIGPSOESAGEVG/
11	3.620 0.00 UPTR:01J076 HUMAN	1455	1 2	27/46 0.4827 0.4827 5.6671 UPSP:CUL7 HUMAN 2 K.MLGEDGOVIGPSOESAGEVGA
1 1	3.597 0.00 UPSP:HNRPO HUMAN	1686	1 2	18/20 0.3318 0.3318 3.2310 UPSP:CUL7 HUMAN 2 K.OVNNFLTSSWR.D
1.1	3.588 0.00 UPTR:05JP53 HUMAN	1853	1 3	46/132 0.4937 0.4937 7.6666 UPSP:CUL7 HUMAN 2 K.RYLHVTSLLDOLNDSAAEPGA
1.1	3.577 0.00 GP:AE006463 8	0668	1 2	17/20 0.4314 0.4314 3.9138 UPSP:CUL7 HUMAN 2 K.SVLEEM*ETDVK.S
1 1	3.557 0.00 UPSP:HS90A HUMAN	1529	1 2	14/20 0.3131 0.3131 2.6216 UPSP:CUL7 HUMAN 2 K.SVLEEMETDVK.S
1 1	3.500 0.00 UPSP:MDM4 HUMAN	1471	1 2	17/18 0.3872 0.3872 3.2581 UPSP:CUL7 HUMAN 2 K.VKPLLLOLOR.O
1 1	3.499 0.00 UPSP:HS70L HUMAN	2618	1 3	43/124 0.5660 0.5660 5.5243 UPSP:CUL7 HUMAN 2 K.YGPEALAGNOAYPSLLEAOED
1 1	3.497 0.00 UPSP:PCCA_HUMAN	0718	1 2	11/12 0.0766 0.0766 1.8806 UPSP:CUL7 HUMAN 2 R.DDDFVPR.Y
1 1	3.478 0.00 UPSP:TCPB_HUMAN	0112	1 2	11/14 0.1829 0.1829 2.0937 UPSP:CUL7 HUMAN 2 R.DTLOPGM*R.V
1 1	3.362 0.00 UPSP:HNRPD HUMAN	1687	1 2	17/22 0.3633 0.3633 3.9173 UPSP:CUL7 HUMAN 2 R.DYAVVLNOLGAR.D
1 1	3.361 0.00 UPTR:05VVC8 HUMAN	2680	1 2	17/22 0.1137 0.1137 4.2781 UPSP:CUL7 HUMAN 2 R.EVLOELIFFLHR.L
1 1	3.357 0.00 UPTR:Q53EN9 HUMAN	1296	1 2	21/24 0.3061 0.3061 3.5881 UPSP:CUL7 HUMAN 8 R.FLPDDEAAQALGK.T
1 1	3.351 0.00 UPSP:RL18 HUMAN	2265	1 2	12/14 0.0196 0.0196 2.4518 UPSP:CUL7 HUMAN 7 R.FWPIIQIR.I
1 1	3.102 0.00 UPSP:SYK HUMAN	2517	1 2	17/30 0.4389 0.4389 3.4029 UPSP:CUL7 HUMAN 2 R.GLEILGPKPTFWPVFR.E
1 1	3.101 0.00 UPTR:Q5JWB0 HUMAN	0733	1 1	7/14 0.1630 0.1630 1.6557 UPSP:CUL7 HUMAN 2 R.GLVSSLGK.G
1 1	3.077 0.00 UPSP:RL13 HUMAN	0984	1 2	10/12 0.1885 0.1885 2.2211 UPSP:CUL7 HUMAN 2 R.GPAFFSR.V
1 1	3.069 0.00 GP:AY891881 1	0569	1 2	14/16 0.3823 0.3823 3.4820 UPSP:CUL7 HUMAN 2 R.GPLDLHEQK.D
1 1	2.814 0.00 UPSP:DHX9 HUMAN	1294	1 3	24/64 0.4060 0.4060 3.8084 UPSP:CUL7 HUMAN 2 R.GPLDLHEQKDIPGGVLK.I
		2769	1 3	28/88 0.4079 0.4079 4.3136 UPSP:CUL7 HUMAN 2 R.GQLELEFSM*AM*GTLISELVQ.
		0319	1 2	17/18 0.1840 0.1840 3.6296 UPSP:CUL7 HUMAN 2 R.HIDQQIQGSR.I
		1552	1 2	23/38 0.3746 0.3746 2.7451 UPSP:CUL7 HUMAN 2 R.LIPPQTYLQAEGEDGQNLEK.R
		0452	1 2	12/12 0.1748 0.1748 2.3680 UPSP:CUL7 HUMAN 2 R.LNDSALR.D
		0898	1 2	<u>13/24</u> 0.3210 0.3210 2.6753 UPSP:CUL7_HUMAN 2 R.LPQQM*LQSLSTSK.E
		1454	1 2	19/24 0.3823 0.3823 3.9411 UPSP:CUL7 HUMAN 2 R.LPQQMLQSLSTSK.E
		0590	1 2	15/18 0.3687 0.3687 3.0308 UPSP:CUL7_HUMAN 2 R.LVEGYGPAGK.I
		0498	1 <u>2</u>	20/24 0.4497 0.4497 3.7290 UPSP:CUL7 HUMAN 2 R.M*IQALSSHDAGTR.T
		1446	1 <u>3</u>	31/64 0.3622 0.3622 3.7057 UPSP:CUL7_HUMAN 8 R.M*LDDYEEISAGDEGEFR.Q
		1728	1 2	15/32 0.2050 0.2050 2.7548 UPSP:CUL7_HUMAN 8 R.MLDDYEEISAGDEGEFR.Q
		0111	1 2	11/14 0.0801 0.0801 1.6180 UPSP:CUL7_HUMAN 2 R.QEQNFADR.F
		2174	1 <u>3</u>	27/60 0.2506 0.2506 4.4303 UPSP:CUL7_HUMAN 2 R.QFHVYQLQQLDQELLK.L
		1667	1 <u>2</u>	23/32 0.4157 0.4157 5.1650 UPSP:CUL7_HUMAN 7 R.QLTLLVASEDSSYM*PAR.V
		1868	1 2	<u>24/32</u> 0.4878 0.4878 4.6842 UPSP:CUL7_HUMAN 7 R.QLTLLVASEDSSYMPAR.V
		<u>2090</u>	1 <u>3</u>	<u>29/72</u> 0.3164 0.3164 4.3630 UPSP:CUL7_HUMAN 2 R.QPQPFLALM*QSLDTPETNR.T
		2633	1 <u>3</u>	25/72 0.3571 0.3571 3.9194 UPSP:CUL7_HUMAN 2 R.QPQPFLALMQSLDTPETNR.T
		2064	1 2	21/34 0.4861 0.4861 3.2180 UPSP:CUL7 HUMAN 2 R.QSNNGVPPVQVFWESTGR.T
		<u>1479</u>	1 2	20/26 0.4326 0.4326 3.3158 UPSP:CUL7_HUMAN 2 R.SEFASGNTYALYVR.D
		<u>0751</u>	1 2	15/18 0.4407 0.4407 2.6660 UPSP:CUL7_HUMAN 2 R.SHDWSSLATR.G
		2139	1 <u>3</u>	34/104 0.4918 0.4918 4.9262 UPSP:CUL7 HUMAN 2 R.SPGSIFQPQLADVSPGLPAAQA(
		2622	1 <u>3</u>	32/56 0.3498 0.3498 4.1034 UPSP:CUL7_HUMAN 1 R.THRPINIPFFDVFLR.Y
		<u>1159</u>	1 <u>2</u>	<u>13/14</u> 0.0698 0.0698 2.0158 UPSP:CUL7_HUMAN <u>3</u> R.TLHLTVLR.I
		<u>1854</u>	1 2	22/28 0.3449 0.3449 3.9829 UPSP:CUL7_HUMAN 2 R.TQILLSLSQQEAIEK.H
		0475	1 2	<u>15/22</u> 0.2975 0.2975 2.9008 UPSP:CUL7_HUMAN 2 R.VGHDGHPEYQIR.W

1714 1	2	15/16	0.2144 0.2144 2.9832 UPSP:CUL7 HUMAN	2	R.VILLENLTR.F
1890 1	2	17/32	0.3795 0.3795 3.3189 UPSP:CUL7 HUMAN	2	R.VLDLLM*HM*LSSPDYQIR.W
2424 1	2	13/32	0.2230 0.2786 2.5445 UPSP:CUL7 HUMAN	2	R.VLDLLM*HMLSSPDYQIR.W
1631 1	2	11/12	0.0764 0.0764 2.2139 UPSP:CUL7_HUMAN	2	R.VLFSLVK.R
<u>1694</u> 1	3	31/60	0.5287 0.5287 4.4522 UPSP:CUL7_HUMAN	2	R.VPLGPGLHAYPDELIR.Q
2034 1	3	38/128	0.4010 0.4010 5.5083 UPSP:CUL7_HUMAN	2	R.YLHVTSLLDQLNDSAAEPGAQ
0560 1	2	11/12	0.2027 0.2027 2.2073 UPSP:CUL7_HUMAN	2	R.YSNFYNK.S
<u>1268</u> 1	2	13/14	0.1682 0.1682 1.9468 UPSP:COA1_HUMAN	2	K.AVVM*DLLR.Q
<u>2171</u> 1	3	28/60	0.3077 0.3077 4.6556 UPSP:COA1_HUMAN	4	K.AYVWDNNKDLAEWLEK.Q
1651 1	2	13/18	0.1298 0.1298 2.3804 UPSP:COA1_HUMAN	2	K.FGAYIVDGLR.E
2317 1	2	21/44	0.5864 0.5864 4.1657 UPSP:COA1_HUMAN	4	K.IASSIVAQTAGIPTLPWSGSGLR
<u>1430</u> 1	3	33/64	0.3178 0.3178 4.5948 UPSP:COA1_HUMAN	4	K.ITDIIGKEEGIGPENLR.G
0899 1	2	17/20	0.3498 0.3498 3.5291 UPSP:COA1_HUMAN	2	K.LLETESFQM*NR.I
<u>1627</u> 1	2	10/12	0.1226 0.1226 2.2766 UPSP:COA1_HUMAN	4	K.LPELLLK.N
<u>0601</u> 1	2	13/16	0.0081 0.0081 2.0510 UPSP:COA1_HUMAN	10	K.M*HLYLGAAK.V
2160 1	3	26/76	0.3040 0.3040 3.0787 UPSP:COA1_HUMAN	3	K.RFQAQSLGTTYIYDIPEM*FR.Q
<u>1611</u> 1	3	35/72	0.4915 0.4915 5.6128 UPSP:COA1_HUMAN	8	K.RIPVQAVWAGWGHASENPK.L
2315 1	3	31/68	0.3985 0.3985 5.0553 UPSP:COA1_HUMAN	2	K.SDM*NTVLNYIFSHAQVTK.K
2379 1	3	33/84	0.2247 0.2247 3.9211 UPSP:COAT HUMAN	2	K.TLRDPSLPLLELQDIM*TSVSGF
2/92 1	3	<u>34/84</u>	0.4325 0.4325 5.1788 UPSP:COAL HUMAN	2	K.ILKDPSLPLLELQDIMISVSGR.
1225 1	4	18/20	0.4212 0.4212 4.0077 UPSP:COAL HUMAN	2	K.VEVGIEVIDYK.F
1235 1	4	16/12	0.2686 0.2686 2.4050 LIBED-COAL HUMAN	2	R. VLIANNOIAAVK.C
1816 1	4	18/24	0.4147.0.4147.4.2008 LIPSP-COA1_HUMAN	11	R.AIGIGATLVK.L
2452 1	2	14/22	0.4198.0.4198.3.1998.UPSP.COA1_HUMAN	4	R.DTIVASTALIVIKI P.EGI PI M*VEANWP.G
2249 1	3	25/60	0.2788 0.2788 3.4694 UPSP-COA1_HUMAN	2	R EVEEM*NTOSIVOLVOP V
2556 1	2	20/30	0.2182.0.2182.4.6371 UPSP:COA1_HUMAN	2	R EVEENNTOSIVOL VOR Y
2081 1	2	27/38	0.4769.0.4769.6.1663 UPSP:COA1_HUMAN	5	R FIIGSVSEDNSEDEISNI VK I
2321 1	2	21/36	0.5900 0.5900 5.4766 UPSP COA1 HUMAN	3	R FOAOSLGTTYIYDIPEM*FR O
1539 1	2	16/20	0.2190 0.2190 3.0436 UPSP:COA1 HUMAN	8	R.FVVM*VTPEDLK.A
2470 1	3	32/88	0.4961 0.4961 5.2292 UPSP:COA1 HUMAN	2	R.GOVLPAHTLLNTVDVELIYEG\
1202 1	2	19/24	0.2282 0.2282 3.8678 UPSP:COA1 HUMAN	4	R.GSVLEPEGTVEIK.F
1048 1	2	13/14	0.2280 0.2280 2.8145 UPSP:COA1 HUMAN	4	R.IGLAEEIR.H
2343 1	2	21/26	0.3880 0.3880 4.2474 UPSP:COA1 HUMAN	4	R.IGSFGPQEDLLFLR.A
1275 1	2	13/14	0.0445 0.0445 2.3492 UPSP:COA1 HUMAN	4	R.IIEFVPTK.T
1502 1	2	17/20	0.2153 0.2153 3.1323 UPSP:COA1 HUMAN	4	R.ILNVPQELYEK.G
<u>1777</u> 1	3	26/68	0.0081 0.0081 3.0134 UPSP:COA1 HUMAN	8	R.IPVQAVWAGWGHASENPK.L
<u>1433</u> 1	3	31/88	0.4357 0.4357 4.4520 UPSP:COA1_HUMAN	7	R.ITSENPDEGFKPSSGTVQELNFR
1649 1	2	<u>19/26</u>	0.4212 0.4212 2.9607 UPSP:COA1_HUMAN	4	R.LGGIPVGVVAVETR.T
<u>1463</u> 1	2	19/24	0.4194 0.4194 4.2185 UPSP:COA1_HUMAN	2	R.LPGGNEIGM*VAWK.M
<u>1734</u> 1	3	<u>26/96</u>	0.1532 0.1532 3.5448 UPSP:COA1_HUMAN	2	R.LSDGGLLLSYDGSSYTTYM*KF
<u>1110</u> 1	2	<u>13/16</u>	0.1878 0.1878 2.6893 UPSP:COA1_HUMAN	2	R.M*AALEVYVR.R
<u>0520</u> 1	2	<u>12/14</u>	0.1688 0.1688 2.0494 UPSP:COA1_HUMAN	2	R.M*GGM*VSFR.T
<u>1932</u> 1	2	16/22	0.3791 0.3791 2.9207 UPSP:COA1_HUMAN	2	R.NSVSNFLHSLER.G
1490 1	2	<u>19/28</u>	0.2675 0.2675 3.9247 UPSP:COA1 HUMAN	2	R.QVQAEVPGSPIFVM*R.L
<u>1845</u> 1	2	18/28	0.4465 0.4465 3.8031 UPSP:COA1_HUMAN	2	R.QVQAEVPGSPIFVMR.L
1060 1	3	21/44	0.3143 0.3143 3.7989 UPSP:COA1 HUMAN	4	R.RVDPVYIHLAER.L
1248 1	2	10/12	0.1041 0.1041 2.0821 UPSP:COA1 HUMAN	2	R.TFEDFVR.I
1508 1	3	35/72	0.4251 0.4251 4.4365 UPSP:COA1_HUMAN	4	R.TIQVENSHLILTGAGALNK.V
1438 1	2	13/18	0.1969 0.1969 2.2359 UPSP:COAT HUMAN	4	R.YLYLIPQDYK.R
0080 1	2	17/26	0.3687 0.3687 3.3920 UPSP:P53 HUMAN	30	K.KGEPHHELPPGSTK.R
1532 1	2	29/32	0.3007 0.3007 4.9203 UPSP:P53 HUMAN	24	K.KKPLDGEYFTLQIR.G
1/25 1	2	14/18	0.1857 0.1857 0.2124 UPSP:P53 HUMAN	24	K.KPLDGETFILQIK.G
0366 1	4	20/26	0.2800.0.2800.2.8275 UDSP-P52 HUMAN	28	K.QSQHMIEVVK.K
0767 1	-	11/16	0.2032 0.2032 2.4728 LIPSP-P53 HUMAN	20	K.RALFINITSSSFORK
0404 1	2	19/24	0 5982 0 5982 2 8052 UPSP-P53 HUMAN	28	R ALPNNTSSSPOPK K
0058 1	± 1	7/10	0.0095 0.0095 1.6279 UPSP-P53 HUMAN	35	R.AM*AIYK.O
1173 1	2	13/16	0.1569 0.1569 1.8805 UPSP:P53 HUMAN	25	R.ELNEALELK D
0941 1	2	23/28	0.4263 0.4263 5.0268 UPSP:P53 HUMAN	25	R.ELNEALELKDAOAGK F
0859 1	3	35/80	0.4367 0.4367 5.4777 UPSP:P53 HUMAN	25	R.ELNEALELKDAOAGKEPGGSR.
0651 1	2	10/12	0.1615 0.1615 1.6149 UPSP:P53 HUMAN	25	R.ERFEM*FR.E
0011 1	3	23/56	0.2887 0.2887 3.3791 UPSP:P53 HUMAN	30	R.KKGEPHHELPPGSTK.R
0749 1	2	17/18	0.1872 0.1872 3.0995 UPSP:P53 HUMAN	26	R.LGFLHSGTAK.S
0515 1	1	7/10	0.0158 0.0158 1.8705 UPSP:P53 HUMAN	28	R.NSFEVR.V
2288 1	3	35/72	0.1024 0.1024 5.7571 UPSP:P53 HUMAN	27	R.RPILTIITLEDSSGNLLGR.N

	2	12/14 0.0540	0.0540 2.9933 UPSP:P53 HUMAN	30	R.RTEEENLR.K
0004 1	2	11/12 0.002	5 0.0026 2.3992 UPSP:P53 HUMAN	30	R.TEEENLR.K
1140 1	3	26/48 0.370	2 0.3702 3.5180 UPSP:P53 HUMAN	36	R.VEGNLRVEYLDDR.N
0650 1	2	11/12 0.236	0.2360 2.5555 UPSP:P53_HUMAN	36	R.VEYLDDR.N
1062 1	2	17/22 0.279	5 0.2795 2.9427 UPSP:BRE1A HUMAN	4	K.AM*EAAOLADDLK.A
1232 1	2	21/24 0.399	5 0.3995 3.9278 UPSP:BRE1A HUMAN	8	K.LGGVSSTEELDIR.T
1537 1	3	36/64 0.336	0.3368 5.6092 UPSP:BRE1A HUMAN	4	K.LLKEEKEELADOVLTLK.T
2166 1	2	12/28 0.2069	0.2069 3.0108 UPSP:BRE1A HUMAN	5	K.RYDLEOGLGDLLTER.K
1085 1	2	14/20 0.2262	2 0.2262 2.9908 UPSP:BRE1A HUMAN	4	R.AVEEOIEYLOK.K
2464 1	3	27/120 0.354	0.3548 3.7767 UPSP:BRE1A HUMAN	4	R.ERGEGOEPAFSFLATLASSSSEE
2597 1	3	45/112 0.5618	3 0.5618 6.6256 UPSP:BRE1A HUMAN	4	R.GEGOEPAFSFLATLASSSSEEM [*]
0630 1	2	13/14 0.217	3 0.2173 2.6394 UPSP:BRE1A HUMAN	8	R.HLAEVLER.V
1485 1	3	28/68 0.313	0.3131 3.6159 UPSP:BRE1A HUMAN	8	R.IEFEQTLAANEQAGPINR.E
1815 1	2	17/20 0.256	0.2566 3.5821 UPSP:BRE1A HUMAN	9	R.LOELTDLLOEK.H
1350 1	2	19/24 0.3494	0.3494 3.5926 UPSP:BRE1A HUMAN	8	R.OATDDASLLIVNR.Y
0882 1	2	16/22 0.4170	5 0.4176 3.0576 UPSP:BRE1A HUMAN	8	R.RAVSOIVTVYDK.L
1973 1	2	20/26 0.2872	2 0.2872 4.0944 UPSP:BRE1A HUMAN	15	R.TEVIOLEDTLAOVR.K
1915 1	2	21/24 0.484	5 0.4845 4.2966 UPSP:MCCC2 HUMAN	_	K.AFYGDTLVTGFAR.I
0871 1	2	13/18 0.1919	0.1919 1.8621 UPSP:MCCC2 HUMAN	1	K.GGAYYPVTVK.K
2666 1	3	39/108 0.4370	5 0.4376 6.1130 UPSP:MCCC2 HUMAN	1	K.KLDVTIEPSEEPLFPADELYGIV
1291 1	3	23/60 0.2070	5 0.2076 3.0954 UPSP:MCCC2 HUMAN	1	K.QFSSADEAALKEPIIK.K
1907 1	2	15/24 0.3510	5 0.3516 2.4180 UPSP:MCCC2 HUMAN	-	K.OGTIFLAGPPLVK.A
2013 1	2	13/16 0.2349	0.2349 2.3007 UPSP:MCCC2 HUMAN	-	R.FLYIWPNAR.I
2364 1	2	23/40 0.5978	3 0.5978 4.7750 UPSP:MCCC2 HUMAN	-	R.IFGYPVGIVGNNGVLFSESAK.K
1964 1	2	26/34 0.4930	0.4930 5.1635 UPSP:MCCC2 HUMAN	1	R.ISVM*GGEOAANVLATITK.D
2241 1	2	23/34 0.460	2 0.4602 5.6636 UPSP:MCCC2 HUMAN	1	R.ISVMGGEOAANVLATITK.D
2811 1	2	26/32 0.5329	0.5329 5.5756 UPSP:MCCC2_HUMAN	-	R.NIPLLELONITGEM*VGR.E
1530 1	2	14/24 0.245	5 0.2455 2.6167 UPSP:MCCC2_HUMAN	1	R.VWDDGIIDPADTR L
1141 1	2	13/18 0.067	5 0.0676 2.4608 UPSP:NUCL HUMAN	5	K.EVFEDAAEIR.L
1871 1	2	20/26 0.409	3 0.4093 4.0127 UPSP:NUCL HUMAN	6	K.FGYVDFESAEDLEK.A
1809 1	2	20/26 0.450	5 0.4506 4.2090 UPSP:NUCL HUMAN	7	K.GFGFVDFNSEEDAK.A
1507 1	2	13/14 0.2464	4 0.2464 2.0899 UPSP:NUCL HUMAN	6	K.GIAYIEFK.T
1024 1	2	15/16 0.296	5 0.2965 2.8115 UPSP:NUCL HUMAN	5	K.NDLAVVDVR.I
2446 1	3	24/88 0.0669	0.0669 3.5139 UPSP:NUCL HUMAN	5	K.OKVEGTEPTTAFNLFVGNLNF
0552 1	2	14/22 0.099	0.0998 1.9971 UPSP:NUCL HUMAN	6	K.TEADAEKTFEEK.Q
2678 1	2	25/42 0.5219	0.5219 5.6765 UPSP:NUCL HUMAN	6	K.TLVLSNLSYSATEETLQEVFEK
2590 1	3	37/80 0.4432	2 0.4432 5.2581 UPSP:NUCL HUMAN	5	K.VEGTEPTTAFNLFVGNLNFNK.
0012 1	2	10/12 0.034	4 0.0344 2.2444 UPSP:NUCL HUMAN	5	K.VTODELK.E
2202 1	-	10/12 0.054	2 0 4092 5 2701 LIPSP-NILICE HUMAN	-	K VTODELKEVEEDAAEIR I
2203 1	2	24/32 0.498	0.4203 J.2701 UFSF. NUCL HUMAN	2	K. VIODLIKL VI LDMALIK.L
$\frac{2203}{2185}$ 1	<u>2</u> 2	<u>24/32</u> 0.4983 15/32 0.0320	0.0326 2.2781 UPSP:MCCA_HUMAN	2 3	K.AVNYVGAGTVEFIMDSK.H
$\frac{2203}{2185}$ 1 1778 1	2 2 2	<u>10/12</u> 0.034 <u>24/32</u> 0.498 <u>15/32</u> 0.0320 17/22 0.416	0.4363 <u>5.2761</u> <u>UPSP:NOCE_HUMAN</u> 0.0326 <u>2.2781</u> <u>UPSP:MCCA_HUMAN</u> 0.4161 3.0950 UPSP:MCCA_HUMAN	2 3 3	K.AVNYVGAGTVEFIMDSK.H K.EGSIEIDIPVPK.Y
$\frac{2203}{2185} 1$ $\frac{1778}{1582} 1$	$\frac{2}{2}$ $\frac{2}{3}$	10/12 0.0324 24/32 0.498: 15/32 0.0324 17/22 0.416 35/68 0.429:	2 0.326 2.2781 UPSP:MCCA_HUMAN 2 0.0326 2.2781 UPSP:MCCA_HUMAN 0.4161 3.0950 UPSP:MCCA_HUMAN 3 0.4293 5.6972 UPSP:MCCA_HUMAN	2 3 3 3	K.AVNYVGAGTVEFIMDSK.H K.EGSIEIDIPVPK.Y K.IPLSOEEITLOGHAFEAR.I
$\frac{2203}{2185} 1$ $\frac{1778}{1582} 1$ $2005 1$	2 2 2 3 2	10/12 0.034 24/32 0.498: 15/32 0.0320 17/22 0.416 35/68 0.429: 19/28 0.477	5 0.0326 2.2781 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 1.04293 5.6972 UPSP:MCCA HUMAN 0.04779 4.0080 UPSP:MCCA HUMAN	2 3 3 2 2	K.AVNYVGAGTVEFINDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.QEGIIFIGPPPSAIR.D
$\frac{2205}{11}$ $\frac{2185}{11}$ $\frac{1778}{1582}$ $\frac{1}{2005}$ $\frac{1}{1222}$ $\frac{1}{11}$	$\frac{2}{2}$ $\frac{2}{3}$ $\frac{2}{3}$ $\frac{2}{3}$	10/12 0.037 24/32 0.498: 15/32 0.0320 17/22 0.416 35/68 0.429: 19/28 0.477 25/92 0.0834	0.0366 <u>527/01</u> <u>01581/NCCA_HUMAN</u> 0.0326 <u>2.2781</u> <u>UPSP:MCCA_HUMAN</u> 0.4161 <u>3.0950</u> <u>UPSP:MCCA_HUMAN</u> 10.4293 <u>5.6972</u> <u>UPSP:MCCA_HUMAN</u> 10.0834 <u>3.1052</u> <u>UPSP:MCCA_HUMAN</u>	2 2 2 2 2 2 2 2 3	K.TVDULKUTI LDAVLIKL K.AVNYVGAGTVEFIMDSK.H K.EGSIEDIPVPK.Y K.IPLSQEEITLQGHAFEAR.J K.QEGIIFIGPPPSAIR.D K.YLSSVSSQETQGGPLAPM*TGT
$\begin{array}{c} 2203 \\ 1 \\ \hline 2185 \\ 1 \\ 1778 \\ 1 \\ \hline 1582 \\ 1 \\ \hline 2005 \\ 1 \\ \hline 1222 \\ 1 \\ 1820 \\ 1 \end{array}$	$\frac{2}{2}$ $\frac{2}{3}$ $\frac{3}{3}$	10/12 0.03+ 24/32 0.498: 15/32 0.032(17/22 0.416 35/68 0.429: 19/28 0.477' 25/92 0.083- 39/92 0.412(0.4783 52707 01581 MCL HUMAN 0.0362 62781 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 0.4793 5.6972 UPSP:MCCA HUMAN 0.0374 3.1052 UPSP:MCCA HUMAN 0.0834 3.1052 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN	2 3 3 3 2 3 3 3 3 3 3 3 3	K.AUNYVAGTUEDANALKL K.AUNYVAGTUEFIMDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITILQGHAFEAR.I K.QEGIIFIGPPPSAIR.D K.YLSSVSSQETQGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS
$\begin{array}{c} 2203 \\ 1 \\ 2185 \\ 1 \\ 1778 \\ 1 \\ 1582 \\ 1 \\ 2005 \\ 1 \\ 1222 \\ 1 \\ 1820 \\ 1 \\ 2156 \\ 1 \end{array}$	2 2 2 3 2 3 2 3 3 3 3	10/12 0.03+ 24/32 0.498: 15/32 0.0320 17/22 0.416 35/68 0.429: 19/28 0.4779 25/92 0.0834 39/92 0.4120 33/92 0.3192	0.0362 <u>0.2761</u> UFSF:MCCA_HUMAN 0.04161 <u>3.0950</u> UFSF:MCCA_HUMAN 0.04293 <u>5.6972</u> UFSF:MCCA_HUMAN 0.04779 <u>4.0080</u> UFSF:MCCA_HUMAN 0.0833 <u>3.1052</u> UFSF:MCCA_HUMAN 0.04120 <u>5.6624</u> UFSF:MCCA_HUMAN 0.3192 <u>4.5049</u> UFSF:MCCA_HUMAN	ର ର ର ର ର ର ର	K.ATNYVGAGTVEFIMDSK.H K.AVNYVGAGTVEFIMDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.QEGIIFIGPPPSAIR.D K.YLSSVSQETQGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFMPVAGPLVHLS
$\begin{array}{c} \underline{2203} \\ 1\\ \underline{2185} \\ 1\\ 1778 \\ 1\\ \underline{1582} \\ 1\\ \underline{2005} \\ 1\\ \underline{1222} \\ 1\\ \underline{1820} \\ 1\\ \underline{2156} \\ 1\\ \underline{1113} \\ 1 \end{array}$	2 2 2 3 2 3 3 3 2 2 3 3 2	1012 0.037 24/32 0.4983 15/32 0.0324 17/22 0.416 35/68 0.4292 19/28 0.477 25/92 0.0833 39/92 0.412(33/92 0.3192 20/24 0.416(0.4783 <u>52701</u> <u>UTSP:MCCA_HUMAN</u> 0.0326 <u>2.2781</u> <u>UTSP:MCCA_HUMAN</u> 0.4161 <u>3.0950</u> <u>UTSP:MCCA_HUMAN</u> 0.4779 <u>4.0080</u> <u>UTSP:MCCA_HUMAN</u> 0.4779 <u>4.0080</u> <u>UTSP:MCCA_HUMAN</u> 0.4120 <u>5.6624</u> <u>UTSP:MCCA_HUMAN</u> 0.3192 <u>4.5049</u> <u>UTSP:MCCA_HUMAN</u> 0.4160 <u>4.9136</u> <u>UTSP:MCCA_HUMAN</u>	2 3 3 2 3 2 3 3 2 3 3 2 2 3 2 2	K.AVNYVKGTUEDAVLIKL K.AVNYVKGTVEFIMDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPSAIR.D K.YLSSVSSQETQGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLST R.SEQEFQEOLESAR.R
$\begin{array}{c} \underline{2203} & 1 \\ \underline{2185} & 1 \\ \underline{1778} & 1 \\ \underline{1582} & 1 \\ \underline{2005} & 1 \\ \underline{1222} & 1 \\ \underline{1820} & 1 \\ \underline{2156} & 1 \\ \underline{1113} & 1 \\ \underline{0620} & 1 \end{array}$	2 2 3 2 3 2 3 3 2 2 2 2	10.12 0.037 24/32 0.498 15/32 0.032 17/22 0.416 35/68 0.4293 19/28 0.477 25/92 0.083 39/92 0.412 33/92 0.3193 20/24 0.4164 19/30 0.1111	20.4763 <u>527/01</u> <u>UTSF:NCCL_HUMAN</u> 20.0326 <u>2.2781</u> <u>UTSF:NCCA_HUMAN</u> 20.4161 <u>3.0950</u> <u>UTSF:MCCA_HUMAN</u> 20.4293 <u>5.6972</u> <u>UTSF:MCCA_HUMAN</u> 20.4779 <u>4.0080</u> <u>UTSF:MCCA_HUMAN</u> 10.0834 <u>3.1052</u> <u>UTSF:MCCA_HUMAN</u> 10.4120 <u>5.6624</u> <u>UTSF:MCCA_HUMAN</u> 10.3192 <u>4.5049</u> <u>UTSF:MCCA_HUMAN</u> 10.4160 <u>4.9136</u> <u>UTSF:MCCA_HUMAN</u> 10.1118 <u>2.5035</u> <u>UTSF:BEE1B_HUMAN</u>	$\frac{2}{3}$ $\frac{3}{2}$	K. TYDDELKETELDATALIKEL K. AVNYVGAGTVEFIMDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEETILOGHAFEAR.I K.OEGIIFIGPPSAIR.D K.YL.SSVSSQETOGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLST R.SEQEFQEOLESAR.R K.EM*APVPGTTTTTSVK.K
$\begin{array}{c} \underline{2203} \\ 1\\ \underline{2185} \\ 1\\ 1778 \\ 1\\ \underline{1582} \\ 1\\ \underline{2005} \\ 1\\ \underline{1222} \\ 1\\ \underline{1820} \\ 1\\ \underline{2156} \\ 1\\ \underline{1113} \\ 1\\ \underline{0620} \\ 1\\ \underline{1444} \\ 1 \end{array}$	2 2 2 2 3 2 3 3 3 2 2 3 3 2 2 3 3 3 2 2 3 3 3 3 2 2 3 3 3 3 2 2 3 3 3 3 2 3	1011 0.037 24/32 0.498; 15/32 0.032(17/22 0.416 35/68 0.429; 19/28 0.477; 25/92 0.083; 39/92 0.412; 33/92 0.319; 20/24 0.416; 19/30 0.111; 28/64 0.266;	0.4780 52401 UPSP:MCCA HUMAN 0.0426 2781 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 0.4273 5.0972 UPSP:MCCA HUMAN 0.0834 3.1052 UPSP:MCCA HUMAN 0.04120 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN	2 3 3 2 3 3 2 3 3 2 6 8	K. ATNYVGAGTVEFINDSK.H K. AVNYVGAGTVEFINDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPSAIR.D K.YLSSVSSOETOGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLST R.SEQEFQCLESSAR.R K.EM*APVPGTTTTTSVK.K K.LLREEKDELGEOVLGIK.S
$\begin{array}{c} \underline{2203} & 1 \\ \underline{2185} & 1 \\ 1778 & 1 \\ 1582 & 1 \\ \underline{2005} & 1 \\ 1\underline{222} & 1 \\ 1\underline{820} & 1 \\ \underline{2156} & 1 \\ 1113 & 1 \\ \underline{0620} & 1 \\ 1444 & 1 \\ 1115 & 1 \end{array}$	21 21 21 21 21 23 23 23 23 24 24 24 24 24 24 24 24 24 24 24 24 24	10 10 0.037 24/32 0.498; 15/32 0.032; 15/32 0.032; 17/22 0.416; 35/68 0.429; 19/28 0.477; 25/92 0.083; 39/92 0.412; 33/92 0.319; 20/24 0.416; 19/30 0.111; 28/64 0.266; 18/22 0.367; 0.367; 0.367;	0.4783 52701 01581 MCCL HUMAN 0.0362 62781 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 0.4293 5.6972 UPSP:MCCA HUMAN 0.0374 3.1052 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4120 4.5049 UPSP:MCCA HUMAN 0.4160 4.9136 UPSP:MCCA HUMAN 0.1160 4.9136 UPSP:BRE1B HUMAN 0.3676 3.6151 UPSP:BRE1B HUMAN	2 3 3 2 3 2 3 3 2 6 8 7	K. TYDDILKLI IDJALIAL K. AUNYVGAGTVEFIMDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITIQGHAFEAR.I K.QEGIIFIGPPSAIR.D K.YLSSVSSQETQGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLST R.SEQEFQEOLESAR.R K.EM*APVPGTTTTTSVK.K K.LLREEKDELGEQVIGI.K.S K.SQVDAQLITVQK.L
$\begin{array}{c} \underline{2203} & 1 \\ \underline{2185} & 1 \\ 1778 & 1 \\ 1582 & 1 \\ \underline{2005} & 1 \\ 1\underline{222} & 1 \\ 1\underline{2156} & 1 \\ 1113 & 1 \\ 0\underline{620} & 1 \\ 1444 & 1 \\ 1\underline{1115} & 1 \\ 1\underline{952} & 1 \end{array}$	2 2 2 2 3 2 3 3 3 2 2 3 2 2 2 2 2 2 2 2	10 10 0.037 24/32 0.498; 15/32 0.032(17/22 0.416 35/68 0.429; 17/28 0.477; 25/92 0.083; 39/92 0.319; 20/24 0.416(19/30 0.1111; 28/64 0.266; 18/22 0.367; 21/32 0.456(0.4785 <u>52701</u> <u>UTSP:MCCA HUMAN</u> 0.0362 <u>62771</u> <u>UTSP:MCCA HUMAN</u> 0.4161 <u>3.0950</u> <u>UTSP:MCCA HUMAN</u> 0.4793 <u>5.6972</u> <u>UTSP:MCCA HUMAN</u> 0.4794 <u>1.0800</u> <u>UTSP:MCCA HUMAN</u> 0.4795 <u>1.0504</u> <u>UTSP:MCCA HUMAN</u> 0.4120 <u>5.6624</u> <u>UTSP:MCCA HUMAN</u> 0.4120 <u>5.6624</u> <u>UTSP:MCCA HUMAN</u> 0.4120 <u>5.6624</u> <u>UTSP:MCCA HUMAN</u> 0.4120 <u>5.6624</u> <u>UTSP:MCCA HUMAN</u> 0.4120 <u>5.6625</u> <u>UTSP:BRE1B HUMAN</u> 0.1118 <u>2.5035</u> <u>UTSP:BRE1B HUMAN</u> 0.3676 <u>5.2070</u> <u>UTSP:BRE1B HUMAN</u> 0.4560 <u>4.6472</u> <u>UTSP:BRE1B HUMAN</u>	2 3 3 2 3 2 3 3 2 6 8 7 4	K.ATNYVGAGTVEFIMDAKLIKL K.AVNYVGAGTVEFIMDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.QEGIIFIGPPPSAIR.D K.YLSSVSSQETQGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLST R.IYAEDPSNNFM*PVAGPLVHLST R.SEQEFQEQLESAR.R K.EM*APVPGTTTTTTSVK.K K.LLREEKDELGEQVLGLK.S K.SQVDAQLLTVQK.L K.YLEM*ETTVEDLQWDIEK.L
$\begin{array}{c} 2205 & 1\\ 2185 & 1\\ 1778 & 1\\ 1582 & 1\\ 2005 & 1\\ 1222 & 1\\ 1820 & 1\\ 2156 & 1\\ 1113 & 1\\ 0620 & 1\\ 1444 & 1\\ 1115 & 1\\ 1952 & 1\\ 1521 & 1 \end{array}$	2 2 2 3 2 3 3 3 2 2 3 3 2 2 2	10 10 0.037 24/32 0.498; 15/32 0.0324 15/32 0.0324 17/22 0.416 35/68 0.429; 0.4121 39/92 0.4123 39/92 0.4124 0.4164 0.1114 20/24 0.4164 0.1114 28/64 0.2667 18/22 0.3674 21/32 0.4564 22/30 0.3644 0.3664 0.3664	0.4363 <u>52701</u> <u>UTSF:NCCA_HUMAN</u> 0.0326 <u>2.2781</u> <u>UTSF:NCCA_HUMAN</u> 0.4161 <u>3.0950</u> <u>UTSF:NCCA_HUMAN</u> 0.4293 <u>5.6972</u> <u>UTSF:NCCA_HUMAN</u> 0.4779 <u>4.0080</u> <u>UTSF:NCCA_HUMAN</u> 0.4120 <u>5.6624</u> <u>UTSF:NCCA_HUMAN</u> 0.4120 <u>5.6624</u> <u>UTSF:NCCA_HUMAN</u> 0.4120 <u>5.6624</u> <u>UTSF:NCCA_HUMAN</u> 0.3129 <u>4.5049</u> <u>UTSF:NCCA_HUMAN</u> 0.4160 <u>4.9136</u> <u>UTSF:NCCA_HUMAN</u> 0.1118 <u>2.5035</u> <u>UTSF:BRE1B_HUMAN</u> 0.2667 <u>5.2207</u> <u>UTSF:BRE1B_HUMAN</u> 0.3646 <u>3.4267</u> <u>UTSF:BRE1B_HUMAN</u> 0.3644 <u>5.4267</u> <u>UTSF:BRE1B_HUMAN</u>	2 3 3 2 3 3 2 3 3 2 6 8 7 4 6	K.ATNYVGAGTVEFINDSALIKL K.AVNYVGAGTVEFINDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPPSAIR.D K.YLSSVSSQETQGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.SEQEFQEQLESAR.R K.EM*APVPGTTTTTTSVK.K K.LLREEKDELGEQVLGLK.S K.SQVDAQLLTVQK.L K.VLEM*ETTVEDLQWDIEK.L R.EGPSLGPPPVASALSR.A
$\begin{array}{c} 2205 \\ 2185 \\ 1 \\ 1778 \\ 1 \\ 1582 \\ 1 \\ 2005 \\ 1 \\ 1222 \\ 1 \\ 1222 \\ 1 \\ 1222 \\ 1 \\ 1$	2 2 2 3 2 3 3 3 2 2 3 3 2 2 2 2	10 10 0.337 24/32 0.498; 15/32 0.0324 15/32 0.0324 1 1 2 0.416 35/68 0.429; 1 1 2 9 2 0.4124 35/92 0.4124 3 9 0.4124 3 9 0.1112 2 0.466 1 1 2 0.2664 0.2666 1 8/22 0.3674 2 1 2 0.4564 2 2 0.3674 2 1 8/20 0.3533 1 8/20 0.3533 1 8/20 0.3533 1 <	10.456 32.001 UPSP:MCCA HUMAN 10.4161 3.0950 UPSP:MCCA HUMAN 10.4293 5.0972 UPSP:MCCA HUMAN 10.4293 5.0972 UPSP:MCCA HUMAN 10.0834 3.1052 UPSP:MCCA HUMAN 10.0834 3.1052 UPSP:MCCA HUMAN 10.0834 3.1052 UPSP:MCCA HUMAN 10.112 5.6624 UPSP:MCCA HUMAN 10.112 5.005 UPSP:BREIB HUMAN 10.2667 5.2207 UPSP:BREIB HUMAN 10.3676 3.6151 UPSP:BREIB HUMAN 10.3645 3.4267 UPSP:BREIB HUMAN 10.3633 2.7819 UPSP:BREIB HUMAN	2 3 3 2 3 2 3 3 2 6 8 7 4 6 4	K. ATNYVGAGTVEFIMDSK.H K. AVNYVGAGTVEFIMDSK.H K. EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K. OEGIIFIGPPSAIR.D K. YL SSVSSOETOGGPLAPM*TGT R.JY AEDPSNNFM*PVAGPLVHLS R.IY AEDPSNNFM*PVAGPLVHLS R.IY AEDPSNNFM*PVAGPLVHLS R.IY AEDPSNNFM*PVAGPLVHLS R.IS LEVENDELGEOVLGI K.S K.SQVDAOLLTVQK.L K.ILRE*ETTVEDLQWDIEK.L R.EGPSLGPPVASALSR.A R.ISLEYSELODK.V
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$\begin{array}{c} 2205 & 1 \\ 2115 & 1 \\ 1778 & 1 \\ 1582 & 1 \\ 2005 & 1 \\ 1222 & 1 \\ 1222 & 1 \\ 1222 & 1 \\ 1113 & 1 \\ 0620 & 1 \\ 1113 & 1 \\ 1062 & 1 \\ 1115 & 1 \\ 1062 & 1 \\ 1267 & 1 \\ 1088 & 1 \\ 1382 & 1 \\ 1382 & 1 \\ 1382 & 1 \\ 1209 & 1 \\ 1799 & 1 \end{array}$		10 10 0.337 24/32 0.498; 15/32 0.0324 15/32 0.0324 11/32 0.416; 35/68 0.429; 19/28 0.477; 25/92 0.0412; 33/92 0.319; 20/24 0.416; 19/30 0.111; 28/64 0.266; 18/22 0.367; 19/30 0.111; 28/64 0.266; 18/22 0.367; 13/30; 0.363; 33/76 0.369; 15/20 0.150; 15/20 0.150; 15/20; 0.150; 16/18 0.413; 19/30; 0.487;	0.436 52.071 UPSP:MCCA HUMAN 0.0326 2.278 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 0.4279 4.080 UPSP:MCCA HUMAN 0.4170 5.692 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4160 4.9136 UPSP:MCCA HUMAN 0.4160 4.9136 UPSP:BREIB HUMAN 0.3667 3.6151 UPSP:BREIB HUMAN 0.3633 2.7819 UPSP:BREIB HUMAN 0.3633 2.7819 UPSP:BREIB HUMAN 0.3632 5.3779 UPSP:BREIB HUMAN 0.4131 2.936 UPSP:FBXW8 HUMAN 0.4131 2.936 <td><u><u><u></u></u> <u><u></u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u></u></td> <td>K. ATNYVGAGTVEFINDSK.H K. AVNYVGAGTVEFINDSK.H K. EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPSAIR.D K. YLSSYSSOETOGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLST R.SEQFFQCLESAR.R K.EM*APVPGTTTTTSVK.K K.LLREEKDELGEOVLGI.K.S K.SQVDAQLLTVQK.L K.ILLRM*ETTVEDLQWDIEK.L REGPSLGPPPVASALSR.A R.ISLEYSELQDK.V R.KVEVYADADEILQEEIKEYK.A R.LQDLATQLQEK.H K.ILVSLEAGR.R K.IVSGEEGLVSVWDYR.M K.LVQVLEIVPETR.R</td>	<u><u><u></u></u> <u><u></u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u> <u></u></u>	K. ATNYVGAGTVEFINDSK.H K. AVNYVGAGTVEFINDSK.H K. EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPSAIR.D K. YLSSYSSOETOGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLST R.SEQFFQCLESAR.R K.EM*APVPGTTTTTSVK.K K.LLREEKDELGEOVLGI.K.S K.SQVDAQLLTVQK.L K.ILLRM*ETTVEDLQWDIEK.L REGPSLGPPPVASALSR.A R.ISLEYSELQDK.V R.KVEVYADADEILQEEIKEYK.A R.LQDLATQLQEK.H K.ILVSLEAGR.R K.IVSGEEGLVSVWDYR.M K.LVQVLEIVPETR.R
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2200 1 2185 1 1778 1 1582 1 2005 1 1222 1 2156 1 1113 1 9620 1 1115 1 1952 1 1052 1 1052 1 1052 1 1052 1 1058 1 1267 1 2087 1 1088 1 1388 1 1267 1 1799 1 1799 1 1799 1 1794 1 0792 1		10 10 0.037 24/32 0.498; 15/32 0.0324 15/32 0.0324 17/22 0.416 35/68 0.429; 0.112 25/92 0.083: 39/92 0.4124 33/92 0.3192 0.3192 20/24 0.4164 0.2667 18/22 0.3671 19/28 0.3423 0.3642 1112 28/64 0.2667 18/20 0.3533 33/76 0.3692 15/20 0.1502 0.1502 16/18 0.4133 19/30 0.4877 17/22 0.2900 18/20 0.3533 33/76 0.3692 15/20 0.1502 15/20 0.1503 16/18 0.4133 19/30 0.4877 17/22 0.29001 18/20 0.3153 13/728 0.1433	10.436 <u>32.010</u> UPSP:MCCA HUMAN 0.0326 <u>2.278</u> UPSP:MCCA HUMAN 0.0426 <u>3.6972</u> UPSP:MCCA HUMAN 0.0479 <u>4.0080</u> UPSP:MCCA HUMAN 0.0479 <u>4.0080</u> UPSP:MCCA HUMAN 0.0479 <u>4.0080</u> UPSP:MCCA HUMAN 0.04120 <u>5.6624</u> UPSP:MCCA HUMAN 0.04120 <u>5.6624</u> UPSP:MCCA HUMAN 0.04120 <u>5.6624</u> UPSP:MCCA HUMAN 0.04120 <u>5.6624</u> UPSP:MCCA HUMAN 0.04120 <u>5.6240</u> UPSP:MCCA HUMAN 0.04118 <u>2.5035</u> UPSP:BRE1B HUMAN 0.04118 <u>2.5035</u> UPSP:BRE1B HUMAN 0.0456 <u>3.6151</u> UPSP:BRE1B HUMAN 0.0456 <u>3.6151</u> UPSP:BRE1B HUMAN 0.0457 <u>3.6151</u> UPSP:BRE1B HUMAN 0.0457 <u>4.615</u> UPSP:BRE1B HUMAN 0.04872 <u>4.615</u> UPSP:FEXW8 HUMAN 0.0457 <u>3.6155</u> UPSP:FEXW8 HUMAN 0.0457 <u>3.6155</u> UPSP:FEXW8 HUMAN 0.0457 <u>3.6155</u> UPSP:FEXW8 HUMAN 0.0457 <u>3.6355</u> UPSP:FEXW8 HUMAN 0.0457 <u>4.635</u> UPSP:FEXW8 HUMAN 0.0457 <u>4.555</u> UPSP:FEXW8 HUMAN 0.0457 <u>4.555</u> UPSP:FEXW8 HUMAN 0.0455 <u>4.5555</u> UPSP:FEXW8 HUMAN 0.0455	0 3 3 3 2 3 3 3 2 6 8 7 4 6 4 8 4 1 1 1 5 . 1	K. AVNYVGAGTVEFIMDSK.H K. AVNYVGAGTVEFIMDSK.H K. EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPSAIR.D K.VI.SSVSSOETOGGPLAPM*TGT R.JYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS K.EM*APVPGTTTTTTSVK.K K.LLREEKDELGEOVIGLK.S K.SOVDAOLLTVOK.L K.VLEM*ETTVEDLQWDIEKL R.EGPSLGPPPVASALSRA R.ISLEYSELQDK.V R.KVEVYADADELQFEIKEYK.A R.IQDLATQLOEK.H K.ILVYSELGGR.R K.IVSGGEEGLVSVWDYR.M K.LVQYLEIVPETR.R K.VLAEDEVLWYR.L R.EGAGGGEQLVDQLIR.D R.NADLDSFTTHR.R
2200 1 2115 1 1778 1 1582 1 2005 1 1222 1 1222 1 1113 1 0620 1 1113 1 0620 1 1115 1 1952 1 1521 1 1952 1 1521 1 2087 1 1088 1 1382 1 1088 1 1382 1 1799 1 1784 1 1804 1 1799 1 1784 1 1804 1 1264 1		10 10 0.037 24/32 0.498; 15/32 0.0324 15/32 0.0324 17/22 0.416 35/68 0.429; 0.319; 0.324 25/92 0.083; 39/92 0.4124 33/92 0.319; 20/24 0.416 19/30 0.1111 28/64 0.266 18/22 0.367; 1.320 0.364; 12/30 0.364; 1.8/20 0.333; 33/76 0.369; 1.5/20 0.150; 16/18 0.413; 1.9/30 0.487; 17/22 0.2900; 18/20 0.315; 17/28 0.433; 17/20 0.2969; 17/28 0.433; 17/20 0.2969; 24/52 0.3344; 17/20 0.2969;	0.4363 5.2071 UPSP:MCCA HUMAN 0.0326 2.2781 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 0.4279 4.0800 UPSP:MCCA HUMAN 0.4479 4.0080 UPSP:MCCA HUMAN 0.4420 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:MCCA HUMAN 0.4160 4.9136 UPSP:BRE1B HUMAN 0.2667 5.2207 UPSP:BRE1B HUMAN 0.3645 3.4267 UPSP:BRE1B HUMAN 0.3645 3.4267 UPSP:BRE1B HUMAN 0.3632 2.5379 UPSP:BRE1B HUMAN 0.4872 4.6015 UPSP:FBXW8 HUMAN 0.4872 4.60	> > <td>K. ATNYVGAGTVEFIMDSK.H K. AVNYVGAGTVEFIMDSK.H K. EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPSAIR.D K.VLSSVSSOETOGGPLAPM*TGT R.JYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.ISLEYEGFQOLESARR K.EM*APVPGTTTTTSVK.K K.LLREEKDELGEOVLGI.K.S K.SQVDAQLLTVQK.L K.ILLRM*ETTVEDLQWDIEK.L REGPSIGPPPVASALSR.A RLSLEYSELQDK.V R.KVEVYADADEILQEEIKEYK.A R.LOPLATQLOEK.H K.ILVYSLEAGR.R K.IVSGEEGLVSVWDYR.M K.LVQYLEIVPETR.R K.VIAEDEVLWYR.L REGAGGGEQLVDQLIR.D R.NADLDSFTHR.R R.SGNIALSLSAHQLR.V</td>	K. ATNYVGAGTVEFIMDSK.H K. AVNYVGAGTVEFIMDSK.H K. EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPSAIR.D K.VLSSVSSOETOGGPLAPM*TGT R.JYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.ISLEYEGFQOLESARR K.EM*APVPGTTTTTSVK.K K.LLREEKDELGEOVLGI.K.S K.SQVDAQLLTVQK.L K.ILLRM*ETTVEDLQWDIEK.L REGPSIGPPPVASALSR.A RLSLEYSELQDK.V R.KVEVYADADEILQEEIKEYK.A R.LOPLATQLOEK.H K.ILVYSLEAGR.R K.IVSGEEGLVSVWDYR.M K.LVQYLEIVPETR.R K.VIAEDEVLWYR.L REGAGGGEQLVDQLIR.D R.NADLDSFTHR.R R.SGNIALSLSAHQLR.V
2205 1 2185 1 1778 1 1582 1 2005 1 12221 1 2156 1 1113 1 0620 1 1115 1 1952 1 1521 1 12221 1 12521 1 12521 1 1267 1 2087 1 1088 1 2087 1 1382 1 2001 1 1799 1 1784 1 1804 1 0792 1 1264 1 20264 1 2110 1		10.10 0.037 24/32 0.498; 15/32 0.032; 15/32 0.032; 17/22 0.416; 35/68 0.429; 19/28 0.477; 25/92 0.083; 39/92 0.412; 33/92 0.319; 20/24 0.416; 19/30 0.111; 28/64 0.266; 18/22 0.367; 21/32 0.456; 22/30 0.363; 33/76 0.369; 15/20 0.150; 16/18 0.413; 19/30 0.487; 17/22 0.290; 18/20 0.315; 17/28 0.413; 17/20 0.296; 24/52 0.344;	0.436 3.2471 UPSP:MCCA_HUMAN 0.0326 2.2781 UPSP:MCCA_HUMAN 0.4161 3.0950 UPSP:MCCA_HUMAN 0.4123 5.6972 UPSP:MCCA_HUMAN 0.4293 5.6972 UPSP:MCCA_HUMAN 0.4293 5.6972 UPSP:MCCA_HUMAN 0.4120 5.6624 UPSP:MCCA_HUMAN 0.4120 5.207 UPSP:BREIB_HUMAN 0.4560 4.6472 UPSP:BREIB_HUMAN 0.3676 3.6151 UPSP:BREIB_HUMAN 0.3676 3.4267 UPSP:BREIB_HUMAN 0.3676 3.4267 UPSP:BREIB_HUMAN 0.3672 2.6961 UPSP:BREIB_HUMAN 0.3674 2.6051 UPSP:FBXW8_HUMAN 0.4131 2.9936 UPSP:FBXW8_HUMAN 0.4031	5 3 3 3 2 3 3 3 2 6 8 7 4 6 4 8 4 1 1 1 5 1 1 1 2	K. ATNYVGAGTVEFINDSK.H K. AVNYVGAGTVEFINDSK.H K.EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.OEGIIFIGPPSAIR.D K.YLSSVSSOETOGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLST R.SEQEFQELESAR.R K.EM*APVPGTTTTTSVK.K K.LLREEKDELGEOVLGI.K.S K.SQVDAQLLTVQK.L K.ULEM*ETTVEDLQWDIEK.L R.EGSLGPPPVASALSR.A R.ISLEYSELQDK.V R.KVEVVADADEILQEEIKEYK.A R.LQDLATQLQEK.H K.ILVSELAGR.R K.IVSGEEGLVSVWDYR.M K.LVQVLEIVPETR.R K.VIAEDEVLWYR.L R.EGAGGGEQLVDQLIR.D R.SGNIALSLSAHQLR.V K.SOVIALSAHQLR.V
$\begin{array}{c} 2200 & 1 \\ 2115 & 1 \\ 1778 & 1 \\ 1582 & 1 \\ 2005 & 1 \\ 1222 & 1 \\ 1222 & 1 \\ 1222 & 1 \\ 1221 & 1 \\ 1225 & 1 \\ 1232 & 1 \\ 1332 & 1 \\ 1088 & 1 \\ 1388 & 1 \\ 1088 & 1 \\ 1388 & 1 \\ 1088$	ିଥି ମାହାହାହାହାହାହାହାହାହାହାହାହାହାହାହାହାହାହାହ	10.11 0.037 24/32 0.498; 15/32 0.438; 15/32 0.432; 17/22 0.416; 35/68 0.429; 25/92 0.083; 39/92 0.412; 33/92 0.319; 20/24 0.416; 19/30 0.111; 28/64 0.266; 22/30 0.364; 18/20 0.353; 33/76 0.369; 15/20 0.150; 16/18 0.413; 19/30 0.487; 17/22 0.290; 15/20 0.315; 17/22 0.290; 18/20 0.333; 17/20 0.290; 17/22 0.413; 17/20 0.290; 17/22 0.315; 17/28 0.413; 17/20 0.290; 24/52 0.394; 21/28 0.403; 19/30 0.248;	0.436 3.2401 UPSP:MCCA HUMAN 0.0362 2.2781 UPSP:MCCA HUMAN 0.4161 3.0950 UPSP:MCCA HUMAN 0.4123 5.6972 UPSP:MCCA HUMAN 0.4293 5.6972 UPSP:MCCA HUMAN 0.4293 5.6972 UPSP:MCCA HUMAN 0.4120 5.6624 UPSP:BREIB HUMAN 0.4120 5.6624 UPSP:BREIB HUMAN 0.4120 5.6624 UPSP:BREIB HUMAN 0.4164 9.136 UPSP:BREIB HUMAN 0.3665 5.2077 UPSP:BREIB HUMAN 0.3645 3.2670 UPSP:BREIB HUMAN 0.3645 3.2671 UPSP:BREIB HUMAN 0.4642 4.601	2 3 3 3 2 3 3 3 2 6 8 7 4 6 4 8 4 1 1 1 5 . 1 1 2 2	K. ATNYVGAGTVEFINDSK.H K. AVNYVGAGTVEFINDSK.H K. EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR.I K.QEGJIFIGPPSAIR.D K.YLSSVSSQETQGGPLAPM*TGTI R.IYAEDPSNNFM*PVAGPLVHLSI R.IYAEDPSNNFM*PVAGPLVHLSI R.IYAEDPSNNFM*PVAGPLVHLSI R.SEQEFQCOLESAR.R K.EM*APVPGTTTTTSVK.K K.LLREEKDELGEQVLGLK.S K.SQVDAQLLTVQK.L K.VLEM*ETTVEDLQWDIFK.L R.EGPSLGPPPVASALSR.A R.ISLEYSELQDK.V R.KVEVYADADEILQEEIKEYK.A R.LQDLATQLQEK.H K.ILVYSLEAGR.R K.IVSGEEGLVSVWDYR.M K.LVQYLEIVPETR.R K.VIAEDEVLWYR.L R.EGAGGGEQLVDQLIR.D R.NADLDSFTTHR.R R.SGNIALSLSAHQLR.V K.JVGDELAQFMVQNGLSR.A
$\begin{array}{c} 2200 & 1 \\ 2185 & 1 \\ 1778 & 1 \\ 1582 & 1 \\ 2005 & 1 \\ 1222 & 1 \\ 1820 & 1 \\ 2156 & 1 \\ 1113 & 1 \\ 0620 & 1 \\ 1115 & 1 \\ 1952 & 1 \\ 1521 & 1 \\ 1521 & 1 \\ 1952 & 1 \\ 1521 & 1 \\ 1952 & 1 \\ 1382 & 1 \\ 2087 & 1 \\ 1382 & 1 \\ 2087 & 1 \\ 1382 & 1 \\ 2001 & 1 \\ 1784 & 1 \\ 1784 & 1 \\ 0792 & 1 \\ 1264 & 1 \\ 2110 & 1 \\ 2259 & 1 \\ 2259 & 1 \\ 2259 & 1 \\ 2256 & 1 \\ \end{array}$	ମା ମ	10 10 0.037 24/32 0.498; 1 24/32 0.498; 1 15/32 0.032; 1 15/32 0.032; 1 15/32 0.032; 1 15/32 0.032; 1 15/32 0.406; 3 17/22 0.416; 3 39/92 0.412; 3 30/92 0.412; 3 20/24 0.416; 1 28/64 0.266; 1 18/20 0.364; 1 22/30 0.364; 1 18/20 0.353; 3 33/76 0.369; 1 15/20 0.150; 0.153; 16/18 0.413; 1 19/30 0.487; 1 17/20 0.290; 1 17/20 0.290; 1 17/20 0.296; 2 24/52 0.394; 1	10.436 3.2471 UPSP:MCCA_HUMAN 0.0326 2.2781 UPSP:MCCA_HUMAN 0.04161 3.0950 UPSP:MCCA_HUMAN 0.4420 5.6972 UPSP:MCCA_HUMAN 0.4479 4.0080 UPSP:MCCA_HUMAN 0.4479 4.0080 UPSP:MCCA_HUMAN 0.4420 5.6624 UPSP:MCCA_HUMAN 0.4120 5.6624 UPSP:MCCA_HUMAN 0.4120 5.6624 UPSP:MCCA_HUMAN 0.4120 5.6624 UPSP:MCCA_HUMAN 0.4120 5.605 UPSP:BREIB_HUMAN 0.4118 2.5035 UPSP:BREIB_HUMAN 0.3665 3.6151 UPSP:BREIB_HUMAN 0.3665 3.6267 UPSP:BREIB_HUMAN 0.3645 3.4267 UPSP:BREIB_HUMAN 0.3645 3.4267 UPSP:BREIB_HUMAN 0.3645 3.4267 UPSP:BREIB_HUMAN 0.3645 3.4267 UPSP:BREIB_HUMAN 0.3645 0.4261 UPSP:BREIB_HUMAN 0.4361 2.9936 UPSP:FBWS_HUMAN 0.4312	2 3 3 3 2 3 3 3 2 6 8 7 4 6 4 8 4 1 1 1 5 . 1 1 2 2 1	K. A'UNYVGAGTVEFIMDSK.H K. A'UNYVGAGTVEFIMDSK.H K. EGSIEIDIPVPK.Y K.IPLSQEEITLQGHAFEAR_I K. OEGIIFIGPPSAIR.D K. YL SSVSSOETOGGPLAPM*TGT R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS R.IYAEDPSNNFM*PVAGPLVHLS K.LLREEKDELGEOVIGLK.S K.SOVDAOLLTVQK.L K.LLREEKDELGEOVIGLK.S K.SOVDAOLLTVQK.L K.VLEM*ETTVEDLOWDIEK.L R.EGPSIGPPPVASALSR.A R.ISLEYSELQDK.V R.KVEVYADADELOFEIKEYK.A R.LODLATQLOEK.H K.ILVSIEAGR.R K.IVSGGEEGLVSVWDYR.M K.LVQYLEIVPETR.R K.VIAEDEVLWYRL R.EGAGGEOLVDOLIR.D R.NADLDSFTTHR.R R.SGNIALSISAHOLR.V K.IVGQLEQ.FWVQNGLSR.A R.ELIPNIPFQM*LLRG

2606 1	3	29/84	0.3943 0.3943 3.6557 UPSP:PYC HUMAN	2	R.SVVEFLQGYIGVPHGGFPEPFR.
1763 1	2	16/22	0.2812 0.2812 2.9399 UPSP:PYC HUMAN	2	R.VFDYSEYWEGAR.G
2356 1	3	32/84	0.3667 0.3667 5.3157 UPSP:HNRPU HUMAN	2	K.EKPYFPIPEEYTFIQNVPLEDR.V
1883 1	2	20/34	0.3286 0.3286 2.5655 UPSP:HNRPU_HUMAN	5	K.SSGPTSLFAVTVAPPGAR.Q
1300 1	2	18/22	0.3521 0.3521 3.5264 UPSP:HNRPU_HUMAN	2	K.YNILGTNTIM*DK.M
1467 1	2	12/18	0.1169 0.1169 1.9407 UPSP:HNRPU_HUMAN	7	R.GYFEYIEENK.Y
1400 1	2	19/24	0.3944 0.3944 3.7037 UPSP:HNRPU_HUMAN	7	R.GYFEYIEENKYSR.A
<u>1407</u> 1	2	24/28	0.4174 0.4174 4.2895 UPSP:HNRPU_HUMAN	2	R.NFILDQTNVSAAAQR.R
<u>0674</u> 1	2	<u>11/14</u>	0.1399 0.1399 1.9509 UPSP:RS2_HUMAN	7	K.ATFDAISK.T
0799 1	2	12/14	0.1176 0.1176 2.0209 UPSP:RS2_HUMAN	6	K.LSIVPVRR.G
2612 1	2	19/24	0.3807 0.3807 4.5371 UPSP:RS2_HUMAN	7	K.SLEEIYLFSLPIK.E
1447 1	3	26/44	0.3816 0.3816 3.2863 UPSP:RS2_HUMAN	7	K.SPYQEFIDHLVK.I
0786 1	2	13/20	0.2714 0.2714 2.4887 UPSP:RS2_HUMAN	0 5	R.TISTLIPDLWKE
1154 1	3	37/68	0 4450 0 4450 5 9912 UPTR 059FY4 HUMAN	23	K IHNANPEL TDGOIOAM*LR R
2038 1	2	21/30	0.4453 0.4453 4.7449 UPTR:059FY4 HUMAN	3	K.IIOOAGOVWFPDSAFK.T
1752 1	2	19/22	0.3141 0.3141 4.1260 UPTR:059FY4 HUMAN	3	R.DIIVIGNDITYR.I
0781 1	2	18/20	0.2929 0.2929 2.6776 UPTR:Q59FY4 HUMAN	3	R.LGTPELSTAER.K
1695 1	2	20/34	0.2848 0.2848 3.3640 UPTR:Q59FY4 HUMAN	3	R.TVELSIPADPANLDSEAK.I
1653 1	2	17/22	0.2778 0.2778 3.2409 UPSP:HSP7C HUMAN	4	K.DAGTIAGLNVLR.I
0980 1	2	22/28	0.3766 0.3766 4.5899 UPSP:HSP7C HUMAN	3	K.NQVAM*NPTNTVFDAK.R
1989 1	3	35/92	0.5067 0.5067 5.4118 UPSP:HSP7C HUMAN	5	K.QTQTFTTYSDNQPGVLIQVYEC
1618 1	2	22/26	0.4121 0.4121 3.8951 UPSP:HSP7C HUMAN	4	K.SFYPEEVSSM*VLTK.M
<u>1692</u> 1	2	15/34	0.3500 0.3500 2.9987 UPSP:HSP7C_HUMAN	4	K.TVTNAVVTVPAYFNDSQR.Q
<u>1707</u> 1	2	<u>16/18</u>	0.3086 0.3086 3.8285 UPSP:RLA0_HUMAN	<u>6</u>	K.IIQLLDDYPK.C
<u>2244</u> 1	2	<u>20/22</u>	0.4415 0.4415 4.1890 UPSP:RLA0 HUMAN	5	K.TSFFQALGITTK.I
<u>1341</u> 1	2	<u>14/16</u>	0.3370 0.3370 2.6663 UPSP:RLA0_HUMAN	<u>6</u>	R.GNVGFVFTK.E
2234 1	2	16/24	0.2969 0.2969 3.8690 UPSP:RLA0_HUMAN	4	R.GTIEILSDVQLIK.T
<u>2236</u> 1	2	22/32	0.5419 0.5419 5.0053 UPSP:RLA0_HUMAN	2	R.VLALSVETDYTFPLAEK.V
1874 1	3	28/68	0.2854 0.2854 3.6379 UPSP:DECR_HUMAN	-	K.FDGGEEVLISGEFNDLRK.V
2570 1	2	22/50	0.3600 0.3600 4.2523 UPSP:DECR_HUMAN	1	K.GAAFLSITTIYAEIGSGEVVPSA
1253 1	2	20/24	0.2538 0.2538 3.5689 UPSP:DECR_HUMAN	2	K.VAFIIGGGIGLGK.G
1226 1	2	14/19	0.0860.0.0860.2.6267 UPSP:DECR_HUMAN	4	K.VAGHENIVIINNAAGINFISFIEK.
1156 1	2	16/20	0 1874 0 1874 3 0881 UPSP-DI 7A HUMAN	1	K NEGIGODIOPK P
1953 1	2	21/26	0 4256 0 4256 4 2846 UPSP RL7A HUMAN	4	K VPPAINOFTOAL DR O
1249 1	2	18/24	0.4388 0.4388 4.1237 UPSP:RL7A HUMAN	6	R.AGVNTVTTLVENK.K
1021 1	3	23/52	0.3801 0.3801 3.6706 UPSP:RL7A HUMAN	6	R.AGVNTVTTLVENKK.A
2086 1	3	24/60	0.1538 0.1538 3.0081 UPSP:RL7A HUMAN	4	R.LKVPPAINQFTQALDR.Q
0519 1	2	14/16	0.2606 0.2606 2.6065 UPSP:NPM_HUMAN	18	K.GPSSVEDIK.A
2471 1	2	26/40	0.6455 0.6455 5.7557 UPSP:NPM_HUMAN	20	K.M*SVQPTVSLGGFEITPPVVLR.
2262 1	2	20/26	0.3127 0.3127 4.0045 UPSP:NPM_HUMAN	11	R.M*TDQEAIQDLWQWR.K
2048 1	3	28/108	0.3927 0.3927 4.7000 UPSP:NPM_HUMAN	<u>18</u>	R.TVSLGAGAKDELHIVEAEAM*1
1806 1	2	22/36	0.4033 0.4033 3.9203 UPTR:Q7Z561_HUMAN	3	K.DVDDGLQAAEEVGYPVM*IK./
<u>1938</u> 1	3	<u>28/88</u>	0.3254 0.3254 3.2963 UPTR:Q7Z561_HUMAN	3	K.GYVKDVDDGLQAAEEVGYPV
<u>2371</u> 1	3	40/108	0.4386 0.4386 4.8472 UPTR:Q7Z561_HUMAN	3	K.M*ADHYVPVPGGPNNNNYAN'
<u>1577</u> 1	3	25/52	0.3952 0.3952 3.3682 UPTR:Q7Z561 HUMAN	1	R.QVLIASHLPSYELR.H
0850 1	2	13/14	0.0937 0.0937 2.5458 UPTR:Q6NXR8 HUMAN	12	K.APAM*FNIR.N
0888 1	2	12/14	0.2613 0.2613 2.7062 UPTR:Q6NXR8 HUMAN	2	K.TIDGYLLR.L
2334 1	2	24/32	0.6045 0.6045 5.1723 UPTR:Q6NXR8 HUMAN	4	R.VFEVSLADLQNDEVAFR.K
2150 1	2	12/14	0.1006 0.1006 2.6701 UPSD-RL2, UUMAN	4	K.VFEVSLADLQNDEVAFRK.F
2361 1	4	31/84	0.3041.0.3041.3.8360 UPSP-RL3_HUMAN	2	K SINDI GGEVHVGEVTNDEVM*I
1030 1	3	37/100	0.4700 0.4700 4.7769 UPSP/RL3_HUMAN	2	R FRI FOOVPVNOVEGODEM*ID
1078 1	2	14/16	0.3419 0.3419 2.9688 UPSP RL3 HUMAN	6	R HGSI GFL PR K
1371 1	2	20/24	0.3720 0.3720 3.6805 UPTR:053HV1 HUMAN	3	K.VNDTIOIDLETGK.I
1656 1	2	15/16	0.1896 0.1896 3.3526 UPTR: 053HV1 HUMAN	3	R.LSNIFVIGK.G
2055 1	2	17/32	0.3737 0.3737 3.9898 UPTR:Q53HV1 HUMAN	3	R.TDITYPAGFM*DVISIDK.T
2642 1	2	27/32	0.5605 0.5605 6.1024 UPSP:PCCB HUMAN	6	R.IQEGVESLAGYADIFLR.N
0453 1	2	14/24	0.2505 0.2505 2.2188 UPSP:PCCB_HUMAN	5	R.KAYGGAYDVM*SSK.H
2112 1	2	16/28	0.0880 0.0880 2.6168 UPSP:PCCB HUMAN	6	R.LVPELDTIVPLESTK.A
1382 1	3	23/52	0.2885 0.2885 3.0066 UPSP:HSP71 HUMAN	6	K.HWPFQVINDGDKPK.V
<u>1343</u> 1	2	<u>22/28</u>	0.4618 0.4618 4.1652 UPSP:HSP71_HUMAN	5	K.NQVALNPQNTVFDAK.R
<u>1805</u> 1	2	<u>19/30</u>	0.4619 0.4619 3.5692 UPSP:HSP71_HUMAN	2	R.IINEPTAAAIAYGLDR.T
<u>2682</u> 1	2	17/28	0.3169 0.3169 2.9151 UPSP:ECHA_HUMAN	3	K.ADM*VIEAVFEDLSLK.H
2662 1	3	26/108	<u>0.2977</u> 0.2977 <u>3.6093</u> <u>UPSP:ECHA_HUMAN</u>	2	K.KLDSLTTSFGFPVGAATLVDEV

<u>1770</u>	1	<u>2</u>	<u>18/28</u>	0.4445 0.4445 <u>3.29</u>	<u>920 I</u>	UPSP:ECHA_HUMAN	<u>3</u>
0502	1	2	19/20	0.2434 0.2434 4.05	519 U	UPSP:RL4 HUMAN	3
1302	1	2	16/18	0.3121 0.3121 3.15	547 I	UPSP-RL4 HUMAN	5
1012	1	2	10/22	0 4701 0 4701 2 55	720 1	UDSD-DL4 HUMAN	5
1912	1	4	19/22	<u>0.4791</u> 0.4791 <u>2.57</u>	<u>720 (</u>	UPSP:RL4_HUMAN	2
<u>1889</u>	1	2	<u>20/28</u>	0.4261 0.4261 3.55	<u>512 (</u>	UPSP:RS24_HUMAN	2
<u>2189</u>	1	2	<u>16/28</u>	0.2150 0.2150 2.66	<u>695 I</u>	UPSP:RS24_HUMAN	2
2579	1	2	17/22	0.2631 0.2631 2.73	347 U	UPSP:RS24 HUMAN	2
1231	1	2	14/22	0.0081.0.0081.2.67	705 I	UPSP-H12 HUMAN	6
1251		~	25/40	0.0001 0.0001 2.07	<u></u>		2
0967	1	<u>3</u>	25/48	<u>0.2636</u> 0.2636 <u>3.96</u>	<u>644</u> [<u>UPSP:H12_HUMAN</u>	<u>6</u>
<u>1104</u>	1	<u>2</u>	<u>15/16</u>	<u>0.0220</u> 0.0220 <u>2.27</u>	<u>713 U</u>	UPSP:H12_HUMAN	<u>6</u>
2542	1	2	21/32	0.3624 0.3624 4.78	<u>810 U</u>	UPSP:RL6 HUMAN	5
2803	1	2	21/28	0 5225 0 5225 4 61	157 I	UPSP'RL6 HUMAN	6
2197	1	~	22/20	0 4155 0 4155 5 04	190 T	UDSD:TDA6 HUMAN	0
2187	1	4	23/28	0.4155 0.4155 5.04	489 (UPSP:IBA6 HUMAN	<u>°</u>
<u>2644</u>	1	2	<u>19/26</u>	<u>0.4719</u> 0.4719 <u>4.04</u>	<u>429 (</u>	UPSP:TBA6_HUMAN	<u>8</u> .
<u>1959</u>	1	2	<u>25/38</u>	0.5911 0.5911 6.03	<u>315 U</u>	UPSP:TBA2_HUMAN	15
1601	1	2	15/34	0.3359 0.3359 2.82	232 U	UPSP:TBA2 HUMAN	21
1779	1	2	26/30	0.0255 0.0255 5.14	103 T	UPSP-GPP78 HUMAN	18
1/12		4	20/30	0.0255 0.0255 5.14	<u>+75</u>	UPOD ODDOG UND (1)	10
0603	1	2	<u>19/20</u>	<u>0.2454</u> 0.2454 <u>3.67</u>	<u>714 (</u>	UPSP:GRP/8_HUMAN	26
<u>0517</u>	1	<u>2</u>	<u>21/32</u>	0.5582 0.5582 4.70	<u>034 I</u>	UPTR:Q96FW6_HUMAN	8
1555	1	3	28/96	0.4667 0.4667 4.05	<u>531 U</u>	UPTR:Q96FW6 HUMAN	8
1916	1	2	16/26	0.3237 0.3237 3.31	117 T	UPSP:G3P_HUMAN	4
2202	1	2	22/02	0.4700.0.4700.5.12	120 T	UDSD.C2D HUMAN	
2392	1	2	33/92	0.4709 0.4709 <u>5.12</u>	<u>236</u>	UFSF.03F_HUMAN	2
<u>1434</u>	1	2	<u>19/20</u>	<u>0.3255</u> 0.3255 <u>3.48</u>	<u>854 (</u>	UPSP:RL7_HUMAN	<u>6</u>
<u>2163</u>	1	2	<u>20/26</u>	0.4475 0.4475 4.26	<u>653 [</u>	UPSP:RL7_HUMAN	7
1098	1	2	15/20	0.3329 0.3329 2.81	174 U	UPTR:09BS10 HUMAN	2
1427	1	2	18/24	0 3929 0 3929 4 50	049 T	UPTR-09BS10 HUMAN	2
0044	1	~	10/24	0.4262.0.4262.2.44	400 I		~
0944	1	4	18/24	<u>0.4262</u> 0.4262 <u>3.44</u>	<u>422 (</u>	UPTR:Q6IPA9_HUMAN	2
<u>1867</u>	1	<u>2</u>	<u>22/26</u>	<u>0.4260</u> 0.4260 <u>3.79</u>	<u>986 I</u>	<u>UPTR:Q6IPX9_HUMAN</u>	<u>5</u>
<u>2221</u>	1	2	<u>16/34</u>	0.3061 0.3061 3.39	<u>998 (</u>	UPSP:RL21_HUMAN	4
1185	1	2	19/28	0.2666 0.2666 3.70	074 U	UPSP:RL21 HUMAN	4
1836	1	2	17/38	0 3107 0 3107 3 01	159 T	UPSP-SVR HUMAN	2
1050		4	17/30	0.3107 0.3107 3.01	139 0	UPOP CITE IN CAN	4
1376	1	2	20/30	0.3539 0.3539 3.73	<u>399 (</u>	UPSP:SYR_HUMAN	3
<u>1152</u>	1	<u>2</u>	<u>13/16</u>	0.3897 0.3897 2.54	<u>476 I</u>	UPTR:Q59FI9_HUMAN	2
1933	1	2	18/30	0.1921 0.1921 3.94	486 U	UPTR:Q59FI9 HUMAN	1
1273	1	2	17/24	0.2835 0.2835 3.11	115 U	UPTR:09NOS8 HUMAN	5
0660	1	2	14/30	0 1878 0 1878 2 95	505 I	UPTP:09NOS8 HUMAN	4
0000		4	14/30	0.1878 0.1878 2.93	<u>595 (</u>	CFTR.Q5NQ38 HOMAN	÷ ;
<u>2690</u>	1	2	16/20	<u>0.3394</u> 0.3394 <u>3.25</u>	<u>514</u>	<u>GP:M77233_1</u>	1
<u>2182</u>	1	2	<u>13/24</u>	0.2226 0.2226 2.62	<u>203</u>	<u>GP:M77233_1</u>	1
1080						UDOD DOO THEMAN	
1009	1	2	12/14	<u>0.1944</u> 0.1944 <u>2.49</u>	<u>924 l</u>	UPSP:KS9 HUMAN	4
1464	1	<u>2</u> 2	<u>12/14</u> 13/16	0.1944 0.1944 2.49 0.2670 0.2670 2.83	<u>924 (</u> 330 I	UPSP:RS9_HUMAN	4 .
<u>1464</u>	1	<u>2</u> <u>2</u>	<u>12/14</u> <u>13/16</u> 40/100	0.1944 0.1944 2.49 0.2670 0.2670 2.83	<u>924 [</u> 330 [280]	UPSP:RS9_HUMAN	<u>4</u> <u>3</u>
<u>1464</u> <u>2353</u>	1 1 1	2 2 3	<u>12/14</u> <u>13/16</u> <u>40/100</u>	0.1944 0.1944 2.49 0.2670 0.2670 2.83 0.3948 0.3948 6.73	<u>924 [</u> 330 [380 [UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPTR:Q6LC01_HUMAN	4 3 14
<u>1464</u> <u>2353</u> <u>2563</u>	1 1 1 1	2 2 3 2	<u>12/14</u> <u>13/16</u> <u>40/100</u> <u>22/30</u>	0.1944 0.1944 2.49 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67	<u>924</u> [330 [380 [777 [UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPTR:Q6LC01_HUMAN UPSP:TCPE_HUMAN	4 3 14 3
<u>1464</u> <u>2353</u> <u>2563</u> <u>2760</u>	1 1 1 1	2 2 3 2 2 2	12/14 13/16 40/100 22/30 21/40	0.1944 0.1944 2.49 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.39	<u>924</u> <u>330</u> <u>380</u> <u>777</u> <u>964</u> <u>1</u>	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPTR:Q6LC01_HUMAN UPSP:TCPE_HUMAN UPSP:AP2B1_HUMAN	4 3 14 3 2
<u>1464</u> <u>2353</u> <u>2563</u> <u>2760</u> <u>0605</u>	1 1 1 1 1 1	2 2 3 2 2 2 2	<u>12/14</u> <u>13/16</u> <u>40/100</u> <u>22/30</u> <u>21/40</u> <u>25/30</u>	0.1944 0.1944 2.45 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 0.5115 5.30	924 <u>[</u> 330 <u>[</u> 380 <u>[</u> 777 <u>[</u> 964 <u>[</u> 071 [UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPTR:Q6LC01_HUMAN UPSP:TCPE_HUMAN UPSP:AP2B1_HUMAN UPSP:MAGB2_HUMAN	4 3 14 3 2 2
<u>1464</u> <u>2353</u> <u>2563</u> <u>2760</u> <u>0605</u> <u>1492</u>	1 1 1 1 1 1	2 2 3 2 2 2 2 2 2 2 2	<u>12/14</u> <u>13/16</u> <u>40/100</u> <u>22/30</u> <u>21/40</u> <u>25/30</u> <u>23/28</u>	0.1944 0.1944 2.45 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 0.5115 5.30 0.5035 0.5035 5.15	924 [330 [380 [777 [964 [071 [948]	UPSP:RS9_HUMAN UPPR:Q6LC01_HUMAN UPSP:TCPE_HUMAN UPSP:AP2B1_HUMAN UPSP:MAGB2_HUMAN UPSP:MAGB2_HUMAN	4 3 14 3 2 2
1464 2353 2563 2760 0605 1492	1 1 1 1 1 1 1	2 2 3 2 2 2 2 2 2 2 2 2 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22	0.1944 0.1944 2.45 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 5.310 0.5035 0.5035 5.19	924 [330 [380 [777 [964 [071 [948 [522]	UPSP:RS9_HUMAN UPPR:06LC01_HUMAN UPPR:06LC01_HUMAN UPSP:TCPE_HUMAN UPSP:AP2B1_HUMAN UPSP:MAGB2_HUMAN UPSP:RS6_HUMAN	4 3 14 3 2 2 6
1002 1464 2353 2563 2760 0605 1492 1887	1 1 1 1 1 1 1	2 2 3 2 2 2 2 2 2 2 2 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22	0.1944 0.1944 2.45 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 0.5115 5.30 0.5035 0.5035 5.19 0.4911 0.491	924 [330 [380 [777 [964 [948 [522 [UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:TCPE_HUMAN UPSP:A201_HUMAN UPSP:MAGB2_HUMAN UPSP:RS6_HUMAN UPSP:RS6_HUMAN UPSP:RL14_HUMAN	4 3 14 3 2 2 6 9
1464 2353 2563 2760 0605 1492 1887 2009	1 1 1 1 1 1 1 1 1	2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36	$\begin{array}{c} 0.1944 \ 0.1944 \ 0.1944 \ 0.2670 \ 0.2670 \ 0.2670 \ 0.2630 \ 0.3948 \ 0.3948 \ 0.3948 \ 0.3948 \ 0.3948 \ 0.3747 \ 0.374$	924 330 380 777 964 071 948 522 048 048	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:TCPE_HUMAN UPSP:A22B1_HUMAN UPSP:MAGB2_HUMAN UPSP:RS6_HUMAN UPSP:RL14_HUMAN UPSP:RL14_HUMAN	$\frac{4}{3}$ $\frac{14}{3}$ $\frac{2}{2}$ $\frac{6}{2}$ $\frac{1}{1}$
1464 2353 2563 2760 0605 1492 1887 2009 1979	1 1 1 1 1 1 1 1 1 1	2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30	$\begin{array}{c} 0.1944 \ 0.1944 \ 2.483\\ 0.2670 \ 0.2670 \ 2.483\\ 0.3948 \ 0.3948 \ 6.73\\ 0.4630 \ 0.4630 \ 5.67\\ 0.3747 \ 0.3747 \ 5.35\\ 0.5115 \ 0.5115 \ 5.32\\ 0.5035 \ 0.5135 \ 5.15\\ 0.4911 \ 0.4911 \ 4.95\\ 0.5832 \ 0.5832 \ 4.90\\ 0.4302 \ 0.4302 \ 4.74\end{array}$	924 1 330 1 380 1 777 1 964 1 964 1 948 1 522 1 048 1 423 1	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:CPE_HUMAN UPSP:AP2B1_HUMAN UPSP:RAGB2_HUMAN UPSP:RS6_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPTR:Q6NZ54_HUMAN	$\frac{4}{3}$ $\frac{14}{3}$ $\frac{2}{2}$ $\frac{6}{2}$ $\frac{9}{1}$ $\frac{1}{1}$
1464 2353 2563 2760 0605 1492 1887 2009 1979 2217	1 1 1 1 1 1 1 1 1 1 1	2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 28/80	0.1944 0.1944 0.1944 0.2670 0.2670 0.2670 2.833 0.3948 0.3948 0.733 0.3948 0.3948 0.733 0.3147 0.3747 5.35 0.5115 0.5115 5.30 0.5035 0.5035 5.15 0.4911 0.4911 4.95 0.5832 0.5832 4.90 0.4302 0.4302 4.74 0.43529 0.3529 0.452	924 [330 [380 [777 [964 [948 [522 [048 [423 [446 [UFSF:RS9_HUMAN UPTR:Q6LC01_HUMAN UPSF:RS9_HUMAN UPSF:ACPE_HUMAN UPSF:PACE_HUMAN UPSF:RS6_HUMAN UPSF:RL9_HUMAN UPSF:RL9_HUMAN UPTR:Q6NZ54_HUMAN UPTR:Q6NZ54_HUMAN	$ \frac{4}{3} $ $ \frac{14}{3} $ $ \frac{2}{2} $ $ \frac{6}{9} $ $ \frac{1}{1} $ $ \frac{1}{1} $
1464 2353 2563 2760 0605 1492 1887 2009 1979 2217 2345	1 1 1 1 1 1 1 1 1 1 1 1	2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 28/80 21/32	0.1944 0.1944 2.49 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 0.5115 5.3(0.5035 0.5035 5.15 0.4911 0.4911 4.95 0.5832 0.5832 4.9(0.4302 0.4302 4.74 0.3529 0.3529 4.64	924 (330 (380 (777 (964 (948 (522 (948 (522 (948 (423 (446 (122 (UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:CPE_HUMAN UPSP:A22B1_HUMAN UPSP:RA2B1_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:S54_HUMAN UPSP:S54_HUMAN	$\frac{4}{3}$ $\frac{14}{3}$ $\frac{2}{2}$ $\frac{2}{2}$ $\frac{6}{9}$ $\frac{1}{1}$ $\frac{1}{1}$
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1464 2353 2563 2760 0605 1492 1887 2009 1979 2217 2345 2585	1 1 1 1 1 1 1 1 1 1 1 1	2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 28/80 21/32 21/32	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.33 0.5115 5.035 5.1515 5.33 0.0353 0.5035 5.1515 5.33 0.0353 0.5035 5.151 5.33 0.4911 0.4911 4.95 0.5832 0.5832 4.96 0.4302 0.4302 4.74 0.4302 0.4302 4.74 0.4302 0.4302 4.64 0.4657 0.4657 4.61 0.4283 0.4283 4.55	924 [330 [380 [777 [964 [964 [948 [522 [948 [522 [948 [423 [423 [423 [122 [875 [875]	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RA2B1_HUMAN UPSP:RL14_HUMAN UPSP:RL14_HUMAN UPSP:RL9_HUMAN UPTR:C75147_HUMAN UPTR:C75147_HUMAN UPSP:SDPR_HUMAN UPSP:LA_HUMAN	
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1002 1464 2353 2563 2760 0605 1492 1887 2009 1979 2217 2345 2585 1380 1597 2310	1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 28/80 21/32 21/26 22/24 22/28 35/84	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 5.30 0.5115 5.30 0.5025 0.5035 5.1515 5.30 0.4911 0.4911 4.92 0.5832 0.4322 4.92 0.4302 0.4302 4.74 0.4323 0.4322 4.64 0.4567 0.4657 4.61 0.4283 0.4283 4.58 0.5537 0.3573 4.55 0.5120 0.5120 6.512 4.53	924 [330 [330 [3380] 3380 [3380] 777 [4 904] 904 [4 907] 904 [4 907] 904 [4 907] 904 [4 907] 100 [UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RCPE_HUMAN UPSP:RA2B1_HUMAN UPSP:RL14_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPTR-05124_HUMAN UPTR-05124_HUMAN UPSP:SDPR_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN	
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1002 1464 2353 2563 2760 0605 1492 1887 2009 1979 2217 2345 2585 1380 1597 2310 2508 2342	1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 3 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 21/32 21/26 22/24 22/28 35/84 19/30 19/32	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 5.33 0.5115 0.5115 5.30 0.5015 0.5115 5.30 0.5015 0.5115 5.30 0.5015 0.5115 0.4911 4.95 0.4911 0.4911 4.95 0.4921 0.4921 4.95 0.4921 0.4921 4.95 0.4302 0.4302 4.74 0.4557 0.4657 4.61 0.4283 4.58 0.3537 0.3537 4.55 0.3537 0.3537 4.55 0.3552 0.3552 4.47 0.3120 0.5120 4.53 0.3552 0.3552 4.47 0.3878 3.44	924 [330] 380 [380] 964 [1 9 964 [1 9 964 [1 9 948] 522 [1 9 948] 522 [1 9 522] 522 [1 9 522] 522 [1 1 522] 1 1 527] 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:ACPE_HUMAN UPSP:RACB_HUMAN UPSP:RACB_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPTR:Q6NZ54_HUMAN UPSP:SDPR_HUMAN UPSP:SDPR_HUMAN UPSP:RL0_HUMAN UPSP:RL0_HUMAN UPSP:RS17_HUMAN UPTR:Q6ICQ4_HUMAN UPSP:RS17_HUMAN	$ \frac{4}{3} $ $ \frac{14}{3} $ $ \frac{2}{2} $ $ \frac{2}{6} $ $ \frac{9}{1} $ $ \frac{1}{1} $ $ \frac{1}{2} $ $ \frac{1}{2} $ $ \frac{2}{2} $
1002 1464 2353 2563 2760 0605 1492 1887 2009 1979 2217 2345 2585 1380 1597 2310 2542	1 1 1 1 1 1 1 1 1 1 1 1 1 1	2 2 3 2 2	12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 28/80 21/32 21/26 22/24 22/28 35/84 19/30 35/72	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 5.30 0.5115 5.30 0.4911 0.4911 4.95 0.5832 0.5832 4.99 0.4302 0.4302 4.74 0.4323 0.4324 4.95 0.4327 0.4357 4.64 0.4657 0.4657 4.61 0.4283 0.4283 4.58 0.5127 0.5124 4.53 0.5127 0.5124 4.53 0.5127 0.5124 4.53 0.5126 0.5126 4.53 0.5552 4.345 0.3378 0.3878 4.40 0.3121 4.446	924 [] 330 [] 380 [] 777 [] 964 [] 964 [] 948 [] 522 [] 948 [] 522 [] 4423 [] 4423 [] 4424 [] 122 [] 875 [] 875 [] 875 [] 875 [] 977	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:TCPE_HUMAN UPSP:RA2B1_HUMAN UPSP:RL14_HUMAN UPSP:RL14_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPTR:-05147_HUMAN UPTR:-05147_HUMAN UPSP:SDPR_HUMAN UPSP:SDPR_HUMAN UPSP:SL10_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN	$\frac{4}{3} \frac{14}{3} \frac{3}{2} \frac{2}{2} \frac{2}{2} \frac{6}{9} \frac{9}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{2} \frac{1}{2} \frac{2}{2} \frac{2}{2} \frac{1}{2} 1$
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1463 2353 2563 2760 0605 1492 1887 2009 2217 2345 2585 1380 2598 2310 2508 2342 2272 1163 2628	1 1 1 1 1 1 1 1 1 1 1 1 1 1		12/14 13/16 40/100 22/30 21/40 25/30 22/30 22/32 23/36 22/30 28/80 21/32 21/26 22/24 22/28 35/84 19/30 35/72 19/24 19/24	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 5.30 0.5115 5.30 0.4911 0.4911 4.95 0.5832 0.5832 4.94 0.4557 0.457 4.61 0.4527 0.457 4.61 0.4283 0.4283 4.58 0.3527 0.3537 4.552 0.3527 0.3537 4.552 0.3525 4.43 0.3552 4.43 0.3878 0.3878 4.40 0.3121 0.3121 4.40 0.3121 0.3121 4.40 0.3254 0.2584 4.30 0.3264 4.30 0.2584 0.2584 4.30 0.2584 0.2584 4.30 0.2584 0.2584 4.30 0.2584 0.2584 4.30 0.2584 0.2584 4.30 0.2584 0.2584 4.30	924 [330] 330] 777 [4 964] 964] 964] 964] 928] 522] 446] 122] 446] 122] 446] 122] 446] 122] 446] 122] 948	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPTR:Q6NZ54_HUMAN UPSP:CDPE_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:COG2_HUMAN UPSP:COG2_HUMAN UPSP:RCPE_SN_HUMAN	$\frac{4}{3} \frac{3}{14} \frac{3}{2} \frac{2}{2} \frac{6}{9} \frac{9}{1} \frac{1}{1} \frac{1}{1} \frac{1}{1} \frac{1}{2} \frac{9}{2} \frac{1}{2} \frac{2}{2} \frac{9}{2} 9$
1464 1464 2353 2563 2760 0605 1492 1887 2009 1979 2217 2345 2585 1380 1597 2310 2508 2322 2163 2628 11439	1 1 1 1 1 1 1 1 1 1 1 1 1 1		12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 21/32 21/26 22/24 22/28 35/84 19/30 35/72 19/24 19/30 35/72 19/24	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.2670 0.2670 0.2670 2.83 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.5115 5.30 0.5035 0.5035 5.115 0.4911 0.4911 4.99 0.5832 0.5832 4.90 0.4302 0.4302 4.74 0.3529 0.3529 4.61 0.4657 0.4657 4.61 0.4283 0.4283 4.58 0.3537 0.3574 5.62 0.3529 0.5120 4.57 0.3529 0.5120 4.57 0.3528 0.2584 4.23 0.3564 0.3700 4.20 0.3100 0.3700 4.20	924 [] 330] 380] 964] 966] 975] 967] 975] 967] 975] 967] 975] 967] 977] 977] 977] 977] 978] 977] 978] 978] 978] 977] 978] 977] 978] 977] 978] 977] 978] 977	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:CPE_HUMAN UPSP:A22B1_HUMAN UPSP:A22B1_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:CO5147_HUMAN UPSP:CO5147_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RS17_HUMAN UPSP:GOCQ_1_ UPSP:MDM2_HUMAN UPSP:COA2_HUMAN UPSP:COA2_HUMAN UPTR:Q05G49_HUMAN	$\frac{4}{2} \underbrace{3}_{14} \underbrace{3}_{2} \underbrace{2}_{2} \underbrace{2}_{6} \underbrace{6}_{9} \underbrace{9}_{1} \underbrace{1}_{1} \underbrace{1}_{1} \underbrace{1}_{2} \underbrace{2}_{2} \underbrace{2}_{2} \underbrace{2}_{5} \underbrace{2} \underbrace{2}_{5} \underbrace{2}_{5} \underbrace{2}_$
1463 1464 2353 2563 2760 0605 1492 1887 2009 1979 2217 2345 2585 1380 1597 2310 2508 2342 2272 1163 2628 1439 2172			12/14 13/16 40/100 22/30 21/40 23/32 23/36 22/30 23/36 22/30 28/80 21/32 21/26 22/24 22/28 35/84 19/30 35/72 19/24 17/24 32/84 22/32	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.33 0.5115 5.03 0.5115 0.5115 5.33 0.0303 0.5035 5.15 0.4911 0.4911 4.92 0.5832 0.5832 4.92 0.4302 0.4302 4.74 0.4320 0.4322 4.65 0.4657 0.4657 4.61 0.4283 0.4283 4.58 0.3520 0.3522 4.64 0.4557 0.4657 4.61 0.4283 0.4283 4.58 0.3520 0.3522 4.64 0.3520 0.352 4.43 0.3520 0.352 4.43 0.3584 0.2584 4.33 0.2584 4.33 0.3700 0.3700 4.22 0.5105 4.13 0.432 4.43 0.3700 0.3700 4.22 0.5105 4.13 0.432 4.43 0.3700 0.3700 4.22 0.5105 4.13 0.432 4.43 0.3700 0.3700 4.22 0.5105 4.13 0.432 4.43 0.432 4.432 0.432 4.43 0.432	924 [924] 330] 380] 964] 9071] 9064] 9071] 9288] 522] 948] 522] 948] 522] 948] 522] 948] 522] 948] 122] 948] 94	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:SDPE_HUMAN UPSP:SDPE_HUMAN UPSP:SDPE_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RL10_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN	$\frac{4}{2} \underbrace{\frac{3}{14}}_{2} \underbrace{\frac{3}{2}}_{2} \underbrace{\frac{2}{2}}_{2} \underbrace{\frac{6}{9}}_{2} \underbrace{\frac{9}{1}}_{1} \underbrace{\frac{1}{1}}_{1} \underbrace{\frac{1}{1}}_{2} \underbrace{\frac{1}{2}}_{2} \underbrace{\frac{9}{2}}_{2} \underbrace{\frac{9}{2}}$
1464 2353 22563 22563 22760 0605 1492 1887 2009 1979 2217 2345 2380 1597 2310 2508 2342 2272 1163 2628 1439 2173 2628	1 1 1 1 1 1 1 1 1 1 1 1 1 1		12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 28/80 22/32 21/26 22/24 22/28 35/84 19/30 35/72 19/24 19/24 19/24 32/84 24/32 37/96	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.2948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.4911 0.4911 4.95 0.5832 0.5832 4.97 0.4921 0.4911 4.95 0.4921 0.4911 4.95 0.4921 0.4911 4.95 0.4921 0.4911 4.95 0.4322 0.4302 4.74 0.3529 0.3529 4.32 0.3529 0.3529 4.43 0.3552 0.3552 4.43 0.3552 0.3552 4.43 0.3121 0.3121 4.40 0.3121 0.3121 4.40 0.3121 0.3121 4.40 0.3121 0.3121 4.40 0.3120 0.3700 4.264 4.33 0.2584 0.2584 4.33 0.2584 0.2584 4.33 0.2584 0.2584 4.33 0.3510 0.4524 4.13 0.3510 0.4524	924 [] 330] 380] 777] 964] 9064] 9071] 948] 522] 446] 522] 4423] 4423] 4423] 4423] 4423] 4423] 122] 875] 122] 124] 127] 12	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:A2B1_HUMAN UPSP:RL21	$\frac{4}{3} \underbrace{14}{3} \underbrace{2}{2} \underbrace{2}{6} \underbrace{9}{1} \underbrace{1}{1} \underbrace{1}{1} \underbrace{1}{2} \underbrace{2}{2} \underbrace{2}{5} \underbrace{4}{5}$
1464 1464 1464 2464 2353 22563 22563 22563 22563 1492 1887 2009 1979 2217 2345 2345 2345 2345 2345 2345 2345 2342 2343 2508 2342 2272 2173 26028 1439 2173 2777	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		12/14 13/16 40/100 22/30 21/30 22/30 23/28 19/22 23/36 22/30 21/32 21/32 22/24 22/28 35/84 19/30 35/72 19/24 19/30 35/72 19/24 22/32 32/84 24/32 37/96 21/40	$\begin{array}{c} 0.1944 & 0.1944 & 2.34\\ 0.2670 & 0.2670 & 0.2670 & 2.83\\ 0.3948 & 0.3948 & 6.73\\ 0.4630 & 0.4630 & 5.67\\ 0.3747 & 5.33\\ 0.5115 & 0.5115 & 5.30\\ 0.5015 & 0.5115 & 5.30\\ 0.5015 & 0.5115 & 5.30\\ 0.5015 & 0.5035 & 5.15\\ 0.4911 & 0.4911 & 4.92\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4302 & 0.4302 & 4.74\\ 0.4657 & 0.4657 & 4.61\\ 0.4657 & 0.4657 & 4.61\\ 0.4657 & 0.4657 & 4.61\\ 0.4657 & 0.4657 & 4.61\\ 0.4657 & 0.457 & 4.61\\ 0.4520 & 0.4210 & 4.52\\ 0.3121 & 4.04\\ 0.3121 & 0.428 & 4.30\\ 0.2544 & 0.2544 & 4.30\\ 0.2544 & 0.2544 & 4.30\\ 0.510 & 4.521 & 4.421 & 4.16\\ 0.5114 & 0.5114 & 0.5114 & 4.08\\ \end{array}$	924 [4] 330 [1] 380 [777] 5 964 [7] 964 [7] 965 [7] 967 [7] 968 [7] 9	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:ACPE_HUMAN UPSP:ACB2_HUMAN UPSP:RS6_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPTR:QCNZ54_HUMAN UPTR:QCNZ54_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPTR:QCCQ4_HUMAN UPSP:COA2_HUMAN UPSP:COA2_HUMAN UPSP:COA2_HUMAN UPSP:COA2_HUMAN UPSP:GCG4_HUMAN UPSP:GCG4_HUMAN	$\frac{4}{3} \underbrace{14}{3} \underbrace{2}{2} \underbrace{2}{6} \underbrace{9}{1} \underbrace{1}{1} \underbrace{1}{1} \underbrace{1}{2} \underbrace{2}{2} \underbrace{2}{5} \underbrace{4}{1}$
1464 1464 2453 22563 2263 2263 2760 0605 1492 1887 2009 1979 2217 2345 2585 1597 2310 2508 2342 2272 1163 2628 1439 2177 1484	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 22/30 22/30 22/30 22/30 22/30 22/30 22/30 22/30 22/30 35/72 19/24 17/24 32/84 17/24 32/84 17/24 32/84 22/32 37/96 21/40 21/32	$\begin{array}{c} 0.1944 & 0.1944 & 2.48\\ 0.02470 & 0.2670 & 0.2670 & 2.83\\ 0.2948 & 0.3948 & 6.73\\ 0.4630 & 0.4630 & 5.67\\ 0.3747 & 0.371 & 0.35115 & 5.30\\ 0.5115 & 5.30\\ 0.5115 & 5.30\\ 0.5035 & 0.5035 & 5.153 & 5.15\\ 0.4911 & 0.4911 & 4.92\\ 0.5832 & 0.5832 & 4.92\\ 0.4302 & 0.4302 & 4.74\\ 0.3529 & 0.3529 & 4.64\\ 0.4657 & 0.4657 & 4.61\\ 0.4228 & 0.4283 & 4.58\\ 0.3529 & 0.3529 & 4.64\\ 0.4657 & 0.4657 & 4.61\\ 0.4228 & 0.4283 & 4.58\\ 0.3529 & 0.352 & 4.64\\ 0.4253 & 0.4528 & 4.58\\ 0.3520 & 0.3525 & 4.47\\ 0.3878 & 0.3878 & 0.3878 & 4.42\\ 0.3121 & 0.3121 & 4.42\\ 0.3652 & 0.3552 & 4.352\\ 0.3550 & 0.3552 & 4.35\\ 0.3520 & 0.3700 & 0.3700 & 4.22\\ 0.5110 & 0.5110 & 4.51\\ 0.5114 & 0.5114 & 4.08\\ 0.5016 & 0.5016 & 4.08\\ \end{array}$	924 [924] 330] 330] 330] 330] 330] 3380] 3480] 340] 340] 340] 3400] 3400] 3400] 3400	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:COMPCE_HUMAN	$\frac{4}{2} \underbrace{14}_{2} \underbrace{2}_{2} \underbrace{2}_{2} \underbrace{6}_{2} \underbrace{9}_{1} \underbrace{1}_{1} \underbrace{1}_{1} \underbrace{1}_{2} \underbrace{2}_{2} \underbrace{2}_{2} \underbrace{9}_{2} \underbrace{2}_{2} \underbrace{5}_{2} \underbrace{4}_{1} \underbrace{1}_{13}$
1464 1464 2353 22563 22563 2760 0605 1492 1887 2009 2217 2345 2308 2342 2272 1163 2628 1439 2177 1484 2148	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 21/26 22/30 21/26 22/30 21/26 22/24 22/28 35/84 19/30 35/72 19/24 32/84 24/32 37/96 21/40	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.2948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.4630 0.4630 5.67 0.3747 0.3747 5.35 0.4911 0.4911 4.95 0.5832 0.5832 4.97 0.4921 0.4911 4.95 0.4921 0.4911 4.95 0.4921 0.4911 4.95 0.4921 0.4911 4.95 0.4322 0.4302 4.74 0.3529 0.3529 4.37 0.3529 0.3529 4.37 0.3527 0.3537 4.55 0.4283 0.4283 4.58 0.3552 0.3552 4.47 0.3552 0.3552 4.47 0.3552 0.3552 4.47 0.3552 0.3552 4.47 0.3552 0.4552 4.47 0.3528 4.0258 4.23 0.2584 0.2584 4.23 0.2584 0.2584 4.23 0.2584 0.2584 4.23 0.4521 0.4521 4.42 0.5105 0.5105 4.23 0.4521 0.4521 4.12 0.5116 0.5116 4.08 0.4273 0.4273 4.07	924 330 380	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RCPE_HUMAN UPSP:A2B1_HUMAN UPSP:RL2E_HUMAN UPSP:RL2E_HUMAN UPSP:RL3E_HUMAN UPSP:RL3E_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:RL10_HUMAN	$\begin{array}{c} 4 \\ \underline{2} \\ \underline{14} \\ \underline{3} \\ \underline{2} \\ \underline{2} \\ \underline{2} \\ \underline{6} \\ \underline{9} \\ \underline{1} \\ \underline{1} \\ \underline{1} \\ \underline{1} \\ \underline{1} \\ \underline{9} \\ \underline{1} \\ \underline{2} \\ \underline{2} \\ \underline{9} \\ \underline{9} \\ \underline{2} \\ \underline{5} \\ \underline{4} \\ \underline{1} \\ \underline{13} \\ \underline{33} \end{array}$
1464 1464 2353 22563 22563 2760 0605 1492 1887 2009 1979 2217 2345 2380 1597 2310 2508 2342 2272 1163 2628 1439 2173 2173 2143 2148 1484 1980			12/14 13/16 40/100 22/30 21/40 25/30 23/28 19/22 23/36 22/30 22/30 21/32 21/26 22/24 19/30 35/72 19/24 19/30 35/72 19/24 17/24 22/32 37/96 21/40 21/32 21/40	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 5.33 0.5115 0.5115 5.30 0.5015 0.5115 5.30 0.5015 0.5115 5.30 0.5015 0.5115 0.4911 4.95 0.4901 0.4911 4.95 0.4902 0.4302 0.4302 4.74 0.4302 0.4302 0.4302 4.74 0.4302 0.4302 0.4302 4.74 0.4302 0.4302 4.55 0.4529 0.4524 4.55 0.3529 0.3524 4.37 0.3120 0.5110 4.52 0.3524 0.2544 4.30 0.3700 0.3700 0.3700 4.22 0.5105 0.5105 4.23 0.5114 0.5114 4.05 0.5120 4.512 4.421 0.5114 0.5114 4.05	924 [330 [330 [330 [330 [330 [330 [330 [330 [330 [330 [938 [964 [948 [948 [948 [942 [943 [944 [122 [122 [122 [947 [947 [947 [947 [947 [947 [947 [947 [947 [947 [947 [948 [948	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS0_HUMAN UPSP:ACPE_HUMAN UPSP:ACF_HUMAN UPSP:RS6_HUMAN UPSP:RS6_HUMAN UPSP:RS6_HUMAN UPSP:RS6_HUMAN UPSP:RS1_HUMAN UPSP:SDPR_HUMAN UPSP:SDPR_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:RS17_HUMAN UPSP:COA2_HUMAN UPSP:COA2_HUMAN UPSP:COA2_HUMAN UPSP:COA2_HUMAN UPSP:DDX1_HUMAN UPSP:DDX1_HUMAN UPSP:DDX1_HUMAN UPSP:DDX1_HUMAN UPSP:DDX1_HUMAN UPSP:DDX1_HUMAN	$\frac{4}{2} \underbrace{\frac{1}{1}}_{1} \underbrace{\frac{3}{2}}_{2} \underbrace{\frac{2}{6}}_{2} \underbrace{\frac{9}{1}}_{1} \underbrace{\frac{1}{1}}_{1} \underbrace{\frac{1}{1}}_{1} \underbrace{\frac{9}{1}}_{2} \underbrace{\frac{2}{2}}_{2} \underbrace{\frac{9}{2}}_{2} \underbrace{\frac{9}{2}}_{2} \underbrace{\frac{4}{1}}_{1} \underbrace{\frac{1}{3}}_{3} \underbrace{\frac{3}{3}}_{1} \underbrace{\frac{1}{1}}_{1} \underbrace{\frac{1}{1}}_{1} \underbrace{\frac{1}{1}}_{2} \underbrace{\frac{1}{2}}_{2} \underbrace{\frac{1}{2}}_{1} \underbrace{\frac{9}{2}}_{1} \underbrace{\frac{1}{2}}_{1} \underbrace{\frac{1}{3}}_{1} \underbrace{\frac{3}{3}}_{1} \underbrace{\frac{1}{3}}_{1} \underbrace{\frac{1}{3}}_$
1464 1464 2353 22563 22563 2760 0605 1492 2009 1979 2217 2345 2585 1380 2592 2310 2508 2342 2272 1163 2628 2173 2628 2173 2173 2173 2173 2173 2173 2173 2173 2173 2173 2173 2173 2173 2173 2173 2148 2188 29051			12/14 13/16 40/100 22/30 21/40 25/30 23/28 22/30 23/28 22/30 28/80 21/32 21/32 21/32 21/32 21/26 22/24 22/28 35/84 19/30 21/32 19/24 22/38 37/96 21/40 21/32 19/28 21/40 21/32 21/32	0.1944 0.1944 2.48 0.2670 0.2670 0.2670 2.83 0.3948 0.3948 6.73 0.4630 0.4630 5.67 0.3747 0.3747 5.33 0.5115 5.30 0.5115 5.30 0.4911 0.4911 4.92 0.5832 0.5832 4.92 0.4302 0.4302 4.74 0.4302 0.4302 4.74 0.4302 0.4302 4.74 0.4323 0.4323 4.92 0.4457 0.457 4.61 0.4283 0.4283 4.58 0.3529 0.3524 4.67 0.3529 0.3525 4.47 0.3878 0.3878 4.42 0.3121 0.3121 4.42 0.3121 0.3121 4.42 0.3528 4.2584 4.33 0.3510 5.1516 4.22 0.5114 0.5114 4.08 0.5114 0.5114 4.08 0.5114 0.5114 4.08 0.5114 0.5514 4.03 0.5520 0.552 4.07 0.5510 0.5514 4.05 0.5114 0.5114 4.08 0.5114 0.5514 4.05 0.5520 0.552 4.07 0.5510 0.5524 4.05 0.5510 0.5514 0.05 0.5510 0.5514 0.05 0.5510 0.5514 0.05 0.5510 0.5520 0.05 0.5520 0.0552 0.0552 0.05 0.5520 0.0552 0.055 0.5520 0.0552 0.055 0.5520 0.0552 0.055 0.5520 0.0552 0.055 0.5520 0.0552 0.055 0.5520 0.0552 0.055 0.5520	924 [330 [330 [330 [330] 4] 330 [4] 330 [5] 33	UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RS9_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RCPE_HUMAN UPSP:RL9_HUMAN UPSP:RL9_HUMAN UPSP:CAPE_HUMAN	$\begin{array}{c} 4 \\ \underline{2} \\ \underline{14} \\ \underline{3} \\ \underline{2} \\ \underline{2} \\ \underline{2} \\ \underline{6} \\ \underline{9} \\ \underline{11} \\ \underline{11} \\ \underline{11} \\ \underline{11} \\ \underline{12} \\ \underline{2} \\ \underline{2} \\ \underline{9} \\ \underline{9} \\ \underline{9} \\ \underline{2} \\ \underline{5} \\ \underline{41} \\ \underline{13} \\ \underline{33} \\ \underline{1} \\ \underline{33} \\ \underline{3} \\ \underline{1} \\ \underline{33} \\ \underline{33} \\ \underline{3} \\ 3$

R.FGGGNPELLTQMVSK.G K.AAAAAAAAQAK.S R.KLDELYGTWR.K R.NIPGITLLNVSK.L K.TTGFGM*IYDSLDYAK.K K.TTGFGMIYDSLDYAK.K <u>K.TTPDVIFVFGFR.T</u> K.ASGPPVSELITK.A R.KASGPPVSELITK.A R.SGVSLAALK.K K.QLASGLLLVTGPLVLNR.V R.ASITPGTILIILTGR.H R.AVFVDLEPTVIDEVR.T R.LISQIVSSITASLR.F K.TIGGGDDSFNTFFSETGAGK.H K.VGINYQPPTVVPGGDLAK.V R.IINEPTAAAIAYGLDK.R R.VEIIANDQGNR.I K.QGPVSQSATQQPVTADK.Q R.ISTPQTNTVPIKPLISTPPVSSQP1 K.LISWYDNEFGYSNR.V K.VIHDNFGIVEGLM*TTVHAITA R.IALTDNALIAR.S R.IVEPYIAWGYPNLK.S -.LTPEEEEILNK.K K.ISSLLEEQFQQGK.L R.ELAEDGYSGVEVR.V R.FGFPEGSVELYAEK.V R.TNGKEPELLEPIPYEFM*A.-R.VYNVTQHAVGIVVNK.Q K.AAYPDLENPPLLVTPSQQAK.F K.SDGGYTYDTSDLAAIK.Q K.IGPLGLSPK.K R.QAQIEVVPSASALIIK.A K.DEILPTTPISEQK.G K.GGKPEPPAM*PQPVPTA.-K.DVNFEFPEFQL.-R.KAIIIFVPVPQLK.S K.LIGEYGLR.N R.LFEGNALLR.R R.SGPFGQIFRPDNFVFGQSGAGN K.LGFAGLVQEISFGTTK.D K.LAPPLVTLLSGEPEVQYVALR. R.APTTAAAAAAGVSSTK.S R.M*ATEVAADALGEEWK.G K.LVAIVDVIDQNR.A K.TILSNQTVDIPENVDITLK.G K.GLDVDSLVIEHIQVNK.A K.NTVLLTWKPPEPAPETPFIYR.L K.VLIFQEENEIPASVFVK.Q R.LTTDFNVIVEALSK.S K.FNADEFEDM*VAEK.R R.IIDVVYNASNNELVR.T K.LLDFGSLSNLQVTQPTVGM*NI K.AAGVNVEPFWPGLFAK.A R.RPILTDITLEDSSGNLLGR.N K.EVLFYLGQYIM*TK.R K.EASFEYLQNEGER.L R.TLTAVHDAILEDLVFPSEIVGK. K.VWLDPNETNEIANANSR.Q K.IVSLFAEHNDLQYAAPGGLIGV R.FLVLDEADGLLSQGYSDFINR.M R.SVGDGETVEFDVVEGEK.G K.AM*GIM*NSFVNDIFER.I K.HSGNITFDEIVNIAR.Q R.ALIAGGGAPEIELALR.L

1426 1	3	31/76	0.3553 0.3553 3.9849 UPSP:SYD_HUMAN	6	R.LPLQLDDAVRPEAEGEEEGR.A
2252 1	2	18/26	0.3502 0.3502 3.8803 UPTR:Q6IRZ0 HUMAN	1	K.LYTLVTYVPVTTFK.S
0665 1	2	18/30	0.4131 0.4131 3.8791 UPSP:HSP72 HUMAN	8	K.STAGDTHLGGEDFDNR.M
1881 1	3	30/92	0.1680 0.1680 3.8397 UPTR:Q5VTE0_HUMAN	22	R.VETGVLKPGM*VVTFAPVNVT
1354 1	2	18/22	0.4434 0.4434 3.7650 UPSP:KC1AL_HUMAN	8	K.TVLM*LADQM*ISR.I
0603 1	2	19/20	0.2454 0.2454 3.6714 UPSP:HSP76_HUMAN	3	R.VEILANDQGNR.T
1662 1	2	18/24	0.3336 0.3336 3.6204 UPTR:Q1JQ76_HUMAN	4	K.KYDAFLASESLIK.Q
2634 1	2	20/24	0.2686 0.2686 3.5966 UPSP:HNRPQ_HUMAN	10	R.DLFEDELVPLFEK.A
2205 1	2	20/28	0.4041 0.4041 3.5878 UPTR:Q5JP53_HUMAN	5	R.ALTVPELTQQVFDAK.N
1287 1	2	19/24	0.3500 0.3500 3.5772 GP:AE006463_8	3	R.LAPDYDALDVANK.I
1609 1	2	18/26	0.2954 0.2954 3.5572 UPSP:HS90A_HUMAN	20	R.GVVDSEDLPLNISR.E
1773 1	2	18/30	0.3901 0.3901 3.5001 UPSP:MDM4_HUMAN	3	R.EDEDLIENLAQDETSR.L
1227 1	2	18/24	0.3775 0.3775 3.4994 UPSP:HS70L_HUMAN	27	R.TTPSYVAFTDTER.L
<u>1358</u> 1	2	18/20	0.4155 0.4155 3.4970 UPSP:PCCA_HUMAN	4	R.M*ADALDNYVIR.G
0385 1	2	18/28	0.4106 0.4106 3.4779 UPSP:TCPB_HUMAN	4	R.AAHSEGNTTAGLDM*R.E
2049 1	3	20/80	0.1471 0.1471 3.3624 UPSP:HNRPD_HUMAN	8	K.IREYFGGFGEVESIELPM*DNK.
<u>1475</u> 1	2	19/26	0.4819 0.4819 3.3607 UPTR:Q5VVC8_HUMAN	8	K.VLEQLTGQTPVFSK.A
<u>1678</u> 1	2	17/36	0.3792 0.3792 3.3566 UPTR:Q53EN9_HUMAN	6	K.HSSDASSLLPQNILSQTSR.H
2042 1	2	15/24	0.3959 0.3959 3.3510 UPSP:RL18_HUMAN	3	K.ILTFDQLALDSPK.G
1808 1	3	26/84	0.2092 0.2092 3.1020 UPSP:SYK_HUMAN	2	K.VTYHPDGPEGQAYDVDFTPPFI
2054 1	2	16/38	0.1795 0.1795 3.1013 UPTR:Q5JWB0_HUMAN	-	R.QPMEPPMEPSGGEQEPGAVR.F
1083 1	2	16/24	0.3550 0.3550 3.0771 UPSP:RL13_HUMAN	5	K.LATQLTGPVM*PVR.N
<u>1251</u> 1	2	18/24	0.4349 0.4349 3.0693 GP:AY891881 1	-	R.AITGASLADIM*AK.R
1736 1	2	19/30	0.3051 0.3051 2.8143 UPSP:DHX9_HUMAN	3	R.ELDALDANDELTPLGR.I

Supplementary Table S2. Affinaty purification and mass spectrometry analysis of p53 in

K562 cell.

226 peptides, 44 proteins Charge states: 1+	☑ 2+	☑ 3+ ☑	🛛 4+ 🗹 Sort	: Refer	ence 🗸 desc	✓ ● html ○ text (⊖dta	Peptide	es 🗸 Reload
13234.2 ✔ Lookup ✔ scanf		R∶□	H: 🗌 Seque	nce:		XCorr 1+0	Ra	nk (1 to	n):
O peptide reference Rank	_	R: 🗆	H: Peptid	le type:	tryptic V	XCorr 2+ 0		w PPM	1:
Group 2/3+	_	R: 🗆	H: AA ty	pe:	acidic V	XCorr 3+ 0] Hi	gh PPM	
Use best ion		R: 🗆	H: Mod A	AA type	e: acidic 🗸	XCorr 4+ 0		w CalPl	PM:
premass M H		/				dCn:	Hi	gh CalP	PM:
mass_diff						dCn2:	Vi	sta Scor	e:
								Hide d	uplicate peptides
Protein matches		scanf H	Rank charge	Ions	dCn dCn2 XCorr	Reference		Redu	Peptide
52 52 3.473 0.00 <u>UPSP:CUL7_HUMAN</u>		0723 1	2	<u>15/18</u>	<u>0.3019</u> 0.3019 <u>2.8911</u>	UPSP:CUL7_HUMA	<u>AN</u>	2	K.AAHVSEQFAR.H
21 21 3.853 0.00 UPSP:PARC_HUMAN		0827 1	2	<u>15/24</u>	0.3441 0.3441 1.9936	UPSP:CUL7_HUMA	<u>AN</u>	2	K.EPPSQSPNTPLQR.L
17 17 3.873 0.00 UPSP:COAT HUMAN		2350 1	2	26/34	0.5922 0.5922 6.1007	UPSP:CUL7_HUMA	<u>AN</u>	2	K.ILLDLEQALSSEGIQENK.V
13 13 3 239 0 00 UPSP:BREIA_HUMAN		<u>1512</u> 1 1681 1	2	28/46	0.5441 0.5441 5.9527	UPSP:CUL7_HUMA	AN	2	K MI GEDGOVIGPSOESAGEVGA
11 11 3 686 0 00 UPSP BRE1B HUMAN		1935 1	2	17/20	0.3613.0.3613.3.3547	UPSP:CUL7_HUMA	AN	2	K OVNNELTSSWR D
10 10 3.968 0.00 UPSP:MCCA HUMAN		2247 1	2	10/34	0.1638 0.1638 2.7660	UPSP:CUL7 HUMA	AN	2	K.OVNNFLTSSWRDDDFVPR.Y
9 9 4.036 0.00 UPSP:MCCC2 HUMAN	<u> </u>	0547 1	2	12/16	0.1432 0.1432 2.7252	UPSP:CUL7 HUMA	AN	2	K.SQSHPALER.G
9 9 3.278 0.00 UPSP:PYC_HUMAN		0963 1	2	18/20	0.4060 0.4060 3.8740	UPSP:CUL7_HUMA	AN	2	K.SVLEEM*ETDVK.S
7 7 3.514 0.00 UPSP:FBXW8_HUMAN	<u>I</u>	<u>0498</u> 1	<u>2</u>	<u>13/16</u>	<u>0.2698</u> 0.2698 <u>2.3799</u>	UPSP:CUL7_HUMA	<u>AN</u>	<u>8</u>	K.VEVSSNPHR.A
4 4 4.437 0.00 <u>UPSP:PCCB_HUMAN</u>		<u>1638</u> 1	<u>3</u>	<u>22/36</u>	<u>0.1779</u> 0.1779 <u>3.6968</u>	UPSP:CUL7_HUMA	<u>AN</u>	2	K.VKPLLLQLQR.Q
4 4 4.312 0.00 <u>UPSP:HSP7C_HUMAN</u>		<u>0606</u> 1	<u>2</u>	<u>10/14</u>	0.0878 0.0878 2.0723	UPSP:CUL7_HUM/	<u>\N</u>	2	R.DTLQPGM*R.V
4 4 3.568 0.00 <u>UPSP:PCCA_HUMAN</u>		<u>1899</u> 1	2	18/22	<u>0.3753</u> 0.3753 <u>3.9073</u>	UPSP:CUL7_HUMA	AN	2	R.DYAVVLNQLGAR.D
4 4 2.941 0.00 <u>UPSP:HS70L HUMAN</u>		2856 1	2	18/22	0.2091 0.2091 4.1899	UPSP:CUL7 HUMA	<u>AN</u>	2	R.EVLQELIFFLHR.L
3 3 5.016 0.00 <u>UPSP:NUCL HUMAN</u>		<u>1532</u> 1 2502 1	2	12/14	<u>0.3222</u> 0.3222 <u>2.9642</u> 0.0155 0.0155 2.4040	UPSP:CUL7_HUMA	AN	<u>8</u> 7	R.FLPDDEAAQALGK.I
3 3 3.712.0.00 UPSP:RLAU_HUMAN		<u>2502</u> 1 2602 1	2	$\frac{12/14}{21/20}$	0.0155 0.0155 2.4940	UPSP:CUL7_HUMA	AN	2	R.F.WPHQIK.I
3 3 3653 0.00 UPSP NPM HUMAN		1263 1	2	10/12	<u>0.4005</u> 0.4005 <u>4.0302</u> 0.2178 0.2178 2.3655	UPSP:CUL7_HUMA	AN	2	R GPAFESR V
3 3 3.626 0.00 UPSP:DECR HUMAN		0854 1	2	14/16	0.3603 0.3603 3.0840	UPSP:CUL7_HUMA	AN	2	R.GPLDLHEOK.D
3 3 3.493 0.00 GP:M66870 1		2940 1	3	34/88	0.4889 0.4889 5.1395	UPSP:CUL7 HUMA	AN	2	R.GQLELEFSM*AM*GTLISELVQ.
3 3 3.321 0.00 UPTR:Q53EN9 HUMA	N 🗆	0584 1	2	16/18	0.1951 0.1951 3.5296	UPSP:CUL7_HUMA	٨N	2	R.HIDQQIQGSR.I
2 2 4.001 0.00 <u>UPSP:TCPE_HUMAN</u>		<u>0475</u> 1	2	<u>15/16</u>	0.1562 0.1562 2.7356	UPSP:CUL7_HUMA	٨N	2	R.IGGAQEM*ER.L
2 2 3.916 0.00 <u>UPSP:HSP72_HUMAN</u>		<u>1747</u> 1	<u>2</u>	<u>22/38</u>	<u>0.4079</u> 0.4079 <u>2.5795</u>	UPSP:CUL7_HUMA	<u>AN</u>	<u>2</u>	R.LIPPQTYLQAEGEDGQNLEK.R
2 2 3.394 0.00 <u>UPSP:RS2 HUMAN</u>		<u>0751</u> 1	1	<u>9/12</u>	<u>0.1139</u> 0.1139 <u>2.1193</u>	UPSP:CUL7_HUMA	<u>AN</u>	<u>2</u>	R.LNDSALR.D
1 1 5.334 0.00 <u>UPSP:HNRPU_HUMAN</u>		<u>1128</u> 1	<u>2</u>	<u>18/24</u>	<u>0.3925</u> 0.3925 <u>3.8407</u>	UPSP:CUL7_HUMA	<u>AN</u>	2	R.LPQQM*LQSLSTSK.E
1 1 5.156 0.00 <u>UPSP:GRP78 HUMAN</u>		<u>1671</u> 1	2	<u>20/24</u>	<u>0.3200</u> 0.3200 <u>3.9312</u>	UPSP:CUL7_HUMA	<u>4N</u>	2	R.LPQQMLQSLSTSK.E
1 1 4.629 0.00 <u>UPSP:TBA6_HUMAN</u>		0891 1	2	<u>15/18</u>	<u>0.1122</u> 0.1122 <u>2.3226</u>	UPSP:CUL7_HUMA	AN	2	R.LVEGYGPAGK.I
1 1 4.503 0.00 UPSP:RL4_HUMAN		0/59 I 2066 I	2	19/24	0.0214 0.0214 1.6220	UPSP:CUL7_HUMA	AN	2	R.M*IQALSSHDAGTR.T
1 1 4.364 0.00 UPSP COA2 HUMAN		0868 1	2	20/24	0.3584 0.3584 3.7465	UPSP:CUL7_HUMA	AN	<u>0</u> 2	R MIQAI SSHDAGTR T
1 1 4.236 0.00 UPSP:HSP71 HUMAN		0639 1	2	11/14	0.2300 0.2300 1.9013	UPSP:CUL7 HUMA	AN	2	R.OEONFADR.F
1 1 4.035 0.00 <u>GP:BC022805 1</u>		2351 1	2	24/30	0.4581 0.4581 4.7000	UPSP:CUL7 HUMA	AN	2	R.QFHVYQLQQLDQELLK.L
1 1 4.032 0.00 UPTR:Q9NQS8_HUMA	N	1869 1	2	23/32	0.3992 0.3992 5.2884	UPSP:CUL7_HUMA	AN	7	R.QLTLLVASEDSSYM*PAR.V
1 1 4.032 0.00 <u>UPSP:RL9_HUMAN</u>		<u>2101</u> 1	2	21/32	<u>0.4481</u> 0.4481 <u>3.2710</u>	UPSP:CUL7 HUMA	AN	2	R.QLTLLVASEDSSYMPAR.V
1 1 3.983 0.00 <u>UPTR:Q5VVC8_HUMA</u>	<u>N</u> 🗆	<u>2307</u> 1	<u>2</u>	<u>16/36</u>	<u>0.5082</u> 0.5082 <u>3.5045</u>	UPSP:CUL7_HUMA	<u>AN</u>	<u>2</u>	R.QPQPFLALM*QSLDTPETNR.T
1 1 3.961 0.00 <u>UPSP:TCPH_HUMAN</u>		<u>2819</u> 1	<u>2</u>	<u>17/36</u>	<u>0.4491</u> 0.4491 <u>3.5926</u>	UPSP:CUL7_HUMA	<u>AN</u>	<u>2</u>	R.QPQPFLALMQSLDTPETNR.T
1 1 3.855 0.00 <u>UPSP:IF2B HUMAN</u>		<u>2251</u> 1	2	<u>15/34</u>	<u>0.3576</u> 0.3576 <u>2.8875</u>	UPSP:CUL7 HUMA	<u>AN</u>	2	R.QSNNGVPPVQVFWESTGR.T
1 1 3.853 0.00 <u>UPSP:RL7 HUMAN</u>		<u>1712</u> 1	2	<u>19/26</u>	0.4180 0.4180 4.1807	UPSP:CUL7 HUMA	<u>AN</u>	2	R.SEFASGNTYALYVR.D
1 1 3.838 0.00 UPSP:MUC2 HUMAN		1049 1	2	12/14	0.1570 0.1570 2.2688	UPSP:CUL7_HUMA	<u>AN</u>	2	R.SLLHLSSR.L
1 1 3.478 0.00 UPIK:Q/Z561 HUMAN		2515 1	3	30/56	0.3340 0.3340 4.2020	UPSP/CUL7_HUMA	AN	∠ 1	R.5FG5HPQPQLADVSPGLPAAQA(
1 1 3.478 0.00 <u>UPSP:EFG2 HUMAN</u>		2701 I 1337 1	2	<u>30/36</u> 11/14	0.0594 0.0594 1 5191	UPSPCUL7 HUMA	AN	1	R TI HI TVI R I
1 1 3.339 0.00 UPTR:08TCX0 HUMAN		1911 1	2	22/28	0.2594 0.2594 4.4532	UPSP:CUL7 HUMA	AN	2	R.TOILLSLSOOFAIEK.H
1 1 3.112 0.00 UPSP:RL18 HUMAN		0727 1	2	16/22	0.3536 0.3536 3.1154	UPSP:CUL7 HUMA	AN	2	R.VGHDGHPEYQIR.W
		1953 1	2	15/16	0.2437 0.2437 3.3498	UPSP:CUL7 HUMA	٨N	2	R.VILLENLTR.F
		2026 1	2	19/32	0.4069 0.4069 3.4539	UPSP:CUL7_HUMA	AN	2	R.VLDLLM*HM*LSSPDYQIR.W
		2620 1	3	29/64	0.0758 0.1154 3.4372	UPSP:CUL7_HUMA	AN	2	R.VLDLLM*HMLSSPDYQIR.W
		<u>2347</u> 1	<u>2</u>	<u>17/32</u>	0.2741 0.4635 3.7826	UPSP:CUL7 HUMA	<u>AN</u>	2	R.VLDLLMHM*LSSPDYQIR.W
		<u>1865</u> 1	<u>2</u>	<u>11/12</u>	0.0605 0.0605 2.2046	UPSP:CUL7_HUMA	٩N	<u>2</u>	R.VLFSLVK.R
		<u>1850</u> 1	<u>2</u>	<u>22/30</u>	<u>0.5251</u> 0.5251 <u>5.2466</u>	UPSP:CUL7_HUMA	<u>AN</u>	2	R.VPLGPGLHAYPDELIR.Q
		<u>0627</u> 1	<u>2</u>	<u>14/16</u>	<u>0.0504</u> 0.0504 <u>2.1469</u>	UPSP:CUL7_HUMA	<u>AN</u>	2	R.WDQASDRPR.S
		2262 1	3	48/128	0.5602 0.5602 6.9118	UPSP:CUL7 HUMA	AN	2	R.YLHVTSLLDQLNDSAAEPGAQ

2100 1	2	22/26	0.2201.0.2201.4.8420 LIDED DADC, HUMAN	1	K ENOTEEVQUETU K D
<u>2100</u> 1	4	22/20	0.3391 0.3391 4.8429 UPSP:PARC_HUMAN	0	K.FNQTEEVSVETLLK.D
<u>1974</u> 1	<u>2</u>	<u>25/32</u>	0.2676 0.2676 5.3298 UPSP:PARC_HUMAN	<u>5</u>	K.M*LAVASSSEIPTFVTGR.D
<u>1819</u> 1	2	22/24	0.4037 0.4037 4.9924 UPSP:PARC_HUMAN	4	K.M*LVELLTNQVGEK.M
2187 1	2	13/14	0 1602 0 1602 2 8758 UPSP-PARC HUMAN	5	K TI I I SVI R V
2214 1	-	24/29	0.5601.0.5601.4.0690 LIDED DADC HUMAN	-	P. A ALETRIOCODOSPELLIP S
2214 1	4	24/30	0.5001 0.5001 4.5080 0F3F.FARC_HUMAN	2	K.AALETTHQOQDOSTELLIK.S
1172 1	2	<u>14/16</u>	0.2963 0.2963 3.3185 UPSP:PARC_HUMAN	<u>5</u>	R.AGSELFGPR.A
<u>2334</u> 1	2	<u>23/32</u>	0.5442 0.5442 4.7618 UPSP:PARC_HUMAN	<u>6</u>	R.FEGSTLNDLLNSQIYTK.Y
2661 1	2	11/30	0.1313 0.1313 2.5466 UPSP:PARC_HUMAN	5	R.GVEVLGPKPTFWPLFR.E
1882 1	3	24/48	0 3203 0 3203 3 5379 LIPSP PARC HUMAN	6	R I I AILOHSAODER V
1602 1	2	15/10	0.3520 0.3520 2.6550 UPOD DADC URDAN	2	RELEASE OF CONTROL OF
108/ 1	4	15/18	0.3530 0.3530 2.6559 UPSP:PARC_HUMAN	2	R.LQAYPEELIK.Q
2711 1	<u>2</u>	<u>20/24</u>	0.3291 0.3291 5.0947 UPSP:PARC_HUMAN	<u>5</u>	R.LQQETQPFLLLLR.T
<u>1809</u> 1	2	<u>12/16</u>	0.0361 0.0361 1.6973 UPSP:PARC_HUMAN	<u>6</u>	R.QFHLFQLQR.L
2333 1	2	14/34	0.3397 0.3397 2.9030 UPSP:PARC HUMAN	4	R.OSNNGIPPVOVFWOSTGR.T
2580 1	2	13/42	0 1831 0 1831 3 2526 LIPSP/PARC HUMAN	5	P SGEAL WI IPPOAVI NVEKDEGI
2001 1	<u>~</u>	22/04	0.4124.0.4124.4.0500 UPOD DADG, UDADA	ž	R.SOLAL WEAT QATELY TEXPLOI
<u>2881</u> 1	<u>3</u>	<u>33/84</u>	0.4124 0.4124 4.8590 UPSP:PARC_HUMAN	2	R.SIFQPYISGPSLLLP11V11PR.R
<u>2633</u> 1	2	<u>21/30</u>	0.4106 0.4106 4.2923 UPSP:PARC_HUMAN	<u>5</u>	R.SLVGGPSAELLLDLER.V
<u>1335</u> 1	2	18/26	0.4121 0.4121 3.2879 UPSP:PARC_HUMAN	<u>5</u>	R.SPAPSPVLPSSSLR.N
2911 1	3	29/56	0.3227 0.3227 3.4478 UPSP:PARC_HUMAN	6	R.THOPINIPFFDVFLR.H
2248 1	2	10/16	0.0766.0.0766.2.1461.LIPSP-PARC_HUMAN	5	P TH M*M*I I NP V
2240 1	4	10/10	0.0700 0.0700 2.1401 0131.1 AKC_HOMAN	2	K.HEM M LENK.I
<u>1677</u> 1	2	18/26	0.4394 0.4394 4.2665 UPSP:PARC_HUMAN	<u>6</u>	R.VGLQSPSVEAWEAK.G
<u>2174</u> 1	<u>3</u>	<u>42/96</u>	0.4362 0.4362 5.8289 UPSP:PARC_HUMAN	<u>5</u>	R.YIDQQIQGGLIGGAPGVEM*LG
2518 1	2	24/44	0.6084 0.6084 5.1031 UPSP:COA1 HUMAN	4	K.IASSIVAQTAGIPTLPWSGSGLR
1169_1	2	17/20	0.3587.0.3587.3.4775 LIPSP COAL HUMAN	2	K I I FTFSFOM*NR I
2000 1	~ 2	26/94	0.2026 0.2026 5 9721 LIPSD-COAL HUMAN	~	K TI BODELDI LELODIMTEVECD
2988 1	3	30/84	0.3926 0.3926 5.8721 UPSP:COAT_HUMAN	4	K.ILRDPSLPLLELQDIMISVSGR.
<u>2048</u> 1	<u>2</u>	<u>19/24</u>	0.3977 0.3977 4.0295 UPSP:COA1_HUMAN	<u>11</u>	R.DFTVASPAEFVTR.F
<u>2677</u> 1	2	14/22	0.2809 0.2809 2.3326 UPSP:COA1 HUMAN	<u>4</u>	R.EGLPLM*VFANWR.G
2468 1	2	21/30	0.2462 0.2462 4.8216 UPSP:COA1 HUMAN	2	R.EVFFM*NTOSIVOLVOR.Y
2287 1	2	28/38	0.4931.0.4931.5.5083 LIPSP:COA1_HUMAN	5	R FIIGSVSEDNSEDEISNI VK I
2207 1	4	20/30	0.4931 0.4931 <u>5.5085</u> 0131.COAT_HOMAN	2	R.FIIOSVSEDNSEDEISNEVK.L
<u>2531</u> 1	2	20/36	0.6004 0.6004 4.9353 UPSP:COAI_HUMAN	<u>3</u>	R.FQAQSLGTTYTYDIPEM*FR.Q
1762 1	2	15/20	0.1824 0.1824 2.7586 UPSP:COA1_HUMAN	8	R.FVVM*VTPEDLK.A
2674 1	3	30/88	0.4627 0.4627 4.8288 UPSP:COA1 HUMAN	2	R.GQVLPAHTLLNTVDVELIYEG\
1437 1	2	15/24	0 2002 0 2002 2 4976 UPSP COA1_HUMAN	4	R GSVLEPEGTVEIK F
2592 1	2	10/26	0.2054 0.2054 4.0097 LIPSP-COAL HUMAN	4	P IGSEGROEDI I ELP A
1720 1	4	10/20	0.3534 0.3534 <u>4.0387</u> UPSP COAL HUR (AN)	-	R.IOSTOTQEDELTER.A
1/30 1	2	16/20	0.2618 0.2618 3.2307 UPSP:COAL_HUMAN	4	R.ILNVPQELYEK.G
<u>1849</u> 1	2	<u>21/26</u>	0.4457 0.4457 3.7010 UPSP:COA1_HUMAN	<u>4</u>	R.LGGIPVGVVAVETR.T
<u>2149</u> 1	2	15/22	0.2176 0.2176 2.3478 UPSP:COA1_HUMAN	2	R.NSVSNFLHSLER.G
1703 1	2	22/28	0.4143 0.4143 4.4010 UPSP:COA1 HUMAN	2	R.QVQAEVPGSPIFVM*R.L
0894 1	2	10/12	0.0982.0.0982.1.8971 LIPSP:CO.A.1. HUMAN	3	R VI OAFI K I
0590 1	-	12/10	0.1672 0.1672 2.4670 UPSD DDF14, UPD (AN)	2	K. VLQALLK.I
0589 1	2	13/18	0.1672 0.1672 2.4670 UPSP:BREIA_HUMAN	7	K.ASQEDANEIK.S
<u>0946</u> 1	2	<u>19/24</u>	0.3138 0.3138 3.1436 UPSP:BRE1A_HUMAN	<u>4</u>	K.EHLLQSNIGTGEK.E
<u>0796</u> 1	2	<u>13/14</u>	0.1685 0.1685 2.9068 UPSP:BRE1A_HUMAN	<u>8</u>	K.LAEM*LDQR.Q
1451 1	2	15/24	0.2550 0.2550 2.6223 UPSP:BRE1A HUMAN	8	K.LGGVSSTEELDIR.T
1732 1	2	21/32	0.3728 0.3728 5.6487 LIPSP BRE1A HUMAN	4	K I I KEEKEEI ADOVI TI K T
2200 1	4	21/32	0.3728 0.3728 0.0487 0131.DREIA_HUMAN	-	KIEKEEKEELADQVETEK.T
<u>2208</u> I	2	21/30	0.4566 0.4566 4.5050 UPSP:BREIA_HUMAN	15	K.LRTEVIQLEDTLAQVR.K
<u>2353</u> 1	<u>2</u>	15/28	0.1177 0.1177 3.0928 UPSP:BRE1A_HUMAN	<u>5</u>	K.RYDLEQGLGDLLTER.K
<u>1182</u> 1	2	16/20	0.2993 0.2993 3.6372 UPSP:BRE1A_HUMAN	<u>4</u>	K.TQVDAQLQVVR.K
1342 1	2	13/20	0.1326 0.1326 2.4132 UPSP:BRE1A HUMAN	4	R.AVEEQIEYLQK.K
0899_1	2	13/14	0.3036.0.3036.2.7533 LIPSP-BRELA_HUMAN	8	R HI AEVI ER V
1704 1	~	22/24		<u> </u>	
1/04 1	4	22/34	0.5526 0.5526 5.1598 UPSP:BREIA_HUMAN	<u>ð</u>	R.IEFEQILAANEQAGPINK.E
<u>1576</u> 1	<u>2</u>	<u>21/24</u>	0.3696 0.3696 3.5760 UPSP:BRE1A HUMAN	<u>8</u>	R.QATDDASLLIVNR.Y
<u>2185</u> 1	2	21/26	0.2503 0.2503 4.6004 UPSP:BRE1A_HUMAN	15	R.TEVIQLEDTLAQVR.K
2666 1	2	21/26	0.3495 0.3495 5.0179 UPSP:BRE1A HUMAN	5	R.YDLEOGLGDLLTER.K
0492 1	2	21/26	0.4249.0.4249.4.4292 LIPSP-P53 HUMAN	30	K KGEPHHEI PPGSTK P
0472 1	<u></u>	21/20	0.4249 0.4249 4.4252 0131.1.55 HOMAN	30	KIKOLI IIIILLI I OSIKIK
<u>1741</u> 1	2	22/26	0.4959 0.4959 4.1969 UPSP:P53_HUMAN	<u>24</u>	K.KKPLDGEYFILQIR.G
<u>1931</u> 1	2	<u>20/24</u>	0.2864 0.2864 3.8880 UPSP:P53 HUMAN	<u>24</u>	K.KPLDGEYFTLQIR.G
<u>0594</u> 1	2	<u>20/26</u>	0.2153 0.2153 3.4733 UPSP:P53 HUMAN	<u>28</u>	K.RALPNNTSSSPQPK.K
<u>104</u> 7 1	2	12/16	0.2469 0.2469 1.9706 UPSP:P53 HUMAN	27	K.TYQGSYGFR.L
0647 1	2	19/24	0 3882 0 3882 2 5403 LIPSP-P53 HUMAN	28	R ALPNNTSSSPOPK K
1269 1	~	14/10	0.1126.0.1126.2.4902 [JB0D-D52_] JBD4433	25	
1308 1	4	14/16	0.1120 0.1120 2.4805 UPSP:P53 HUMAN	23	K.ELNEALELK.D
<u>0284</u> 1	<u>3</u>	<u>24/56</u>	0.2531 0.2531 3.3097 UPSP:P53_HUMAN	<u>30</u>	R.KKGEPHHELPPGSTK.R
<u>1027</u> 1	2	<u>17/18</u>	0.2428 0.2428 3.2598 UPSP:P53 HUMAN	<u>26</u>	R.LGFLHSGTAK.S
<u>2534</u> 1		22/36	0.3437 0.3437 4.6797 UPSP:P53 HUMAN	27	R.RPILTIITLEDSSGNLLGR.N
	2	22/00			
0474 1	2 2	13/14	0.1311 0.1311 3.5412 UPSP:P53 HUMAN	30	R.RTEEENLR.K
0474 1	22	<u>13/14</u> 11/12	0.1311 0.1311 3.5412 UPSP:P53_HUMAN	<u>30</u> 30	R.RTEEENLR.K R TEFENIR K
$\frac{0474}{0565}$ 1	2 2 2	<u>13/14</u> <u>11/12</u> 8/12	0.1311 0.1311 3.5412 UPSP:P53 HUMAN 0.0199 0.0199 2.2577 UPSP:P53 HUMAN	<u>30</u> <u>30</u> 26	<u>R.RTEEENLR.K</u> <u>R.TEEENLR.K</u> D. VEVI DDR N
$\begin{array}{c} \underline{0474} & 1 \\ \underline{0565} & 1 \\ \underline{0933} & 1 \end{array}$	2 2 1	<u>13/14</u> <u>11/12</u> <u>8/12</u>	0.1311 0.1311 3.5412 UPSP:P53 HUMAN 0.0199 0.0199 2.2577 UPSP:P53 HUMAN 0.1539 0.1539 2.0828 UPSP:P53 HUMAN	<u>30</u> <u>30</u> <u>36</u>	R.RTEEENLR.K R.TEEENLR.K R.VEYLDDR.N

1665	1	<u>3</u>	<u>31/92</u>	0.2686 0.2686 4.1513 UPSP:BREIB_HUMAN	2	K.KEELVPSEEDFQG11PGAQGPS
<u>1648</u>	1	<u>3</u>	<u>29/64</u>	0.2997 0.2997 5.1328 UPSP:BRE1B_HUMAN	<u>8</u>	K.LLREEKDELGEQVLGLK.S
<u>1043</u>	1	<u>2</u>	<u>13/18</u>	0.2125 0.2125 2.6100 UPSP:BRE1B_HUMAN	<u>6</u>	K.LQAELQGAVR.T
1351	1	2	<u>19/22</u>	0.3180 0.3180 4.0733 UPSP:BRE1B_HUMAN	7	K.SQVDAQLLTVQK.L
1406	1	2	13/18	0.1601 0.1601 2.2790 UPSP:BRE1B HUMAN	5	K.TTTTLIEPIR.L
1728	1	2	21/30	0.4381.0.4381.3.7319.UPSP/BRE1B_HUMAN	6	R EGPSI GPPPVASALSR A
1503	1	~	18/20	0.3707 0.3707 3.7705 UDSP-DDE1D_HUMAN		P ISI EVSELODY V
1303	1	4	18/20	0.3797 0.3797 <u>3.7793</u> UPSP:BRE1B_HUMAN	4	KISLETSELQDK.V
2268	1	<u>3</u>	33/76	0.3968 0.3968 5.2969 UPSP:BREIB_HUMAN	<u>8</u>	<u>R.KVEVYADADEILQEEIKEYK.A</u>
<u>1341</u>	1	<u>2</u>	<u>16/20</u>	0.2731 0.2731 3.3607 UPSP:BRE1B_HUMAN	<u>4</u>	R.LQDLATQLQEK.H
<u>1653</u>	1	<u>2</u>	<u>18/24</u>	0.2330 0.2330 2.7766 UPSP:BRE1B_HUMAN	4	R.QATDDATLLIVNR.Y
2389	1	2	<u>18/32</u>	0.2824 0.2824 3.2441 UPSP:MCCA_HUMAN	3	K.AVNYVGAGTVEFIMDSK.H
1994	1	2	13/22	0.3402 0.3402 2.2949 UPSP:MCCA HUMAN	3	K.EGSIEIDIPVPK.Y
1774	1	3	36/68	0.5230.0.5230.5.9785 UPSP MCCA HUMAN	3	K IPL SOFEITLOGHAFEAR I
1280	1	2	17/29	0.2422 0.2422 2.2002 UDSP:MCCA_HUMAN	2	K VI CUOTVAVVSEADD N
2100	1	4	21/20	0.4840.0.4840.4.2170.UDSD-MCCA_HUDAAN	<u><u></u></u>	K.KLOVQIVAVISLADK.N
2188	1	4	21/28	0.4840 0.4840 4.2179 UPSP:MCCA HUMAN	4	K.QEGIIFIGPPPSAIK.D
<u>1428</u>	1	3	<u>28/92</u>	0.2136 0.2136 3.8117 UPSP:MCCA_HUMAN	3	K.YLSSVSSQETQGGPLAPM*TG1
<u>2318</u>	1	<u>3</u>	<u>38/92</u>	0.4524 0.4524 5.3943 UPSP:MCCA_HUMAN	<u>3</u>	R.IYAEDPSNNFMPVAGPLVHLST
<u>2233</u>	1	<u>3</u>	<u>28/84</u>	0.3082 0.3082 4.2630 UPSP:MCCA_HUMAN	<u>3</u>	R.LQVEHPVTEM*ITGTDLVEWQI
2540	1	3	28/84	0.3397 0.3397 3.8825 UPSP:MCCA HUMAN	3	R.LQVEHPVTEMITGTDLVEWQL
1363	1	2	15/24	0.2854 0.2854 3.2955 UPSP:MCCA HUMAN	2	R.SEOEFOEOLESAR.R
2110	1	2	21/24	0 4837 0 4837 4 7499 UPSP MCCC2 HUMAN	-	K AFYGDTI VTGFAR I
1144	1	2	12/19	0.1855 0.1855 2.0269 LIDED MCCC2 HUMAN	1	KAR TODIEVIOLARI
1144	1	4	10/20	0.1855 0.1855 2.0508 UPSP.MCCC2 HUMAN	+	K.OGATTFVTVK.K
<u>1483</u>	1	2	18/30	0.4174 0.4174 3.8587 UPSP:MCCC2_HUMAN	1	K.QFSSADEAALKEPIIK.K
<u>1805</u>	1	2	<u>11/12</u>	0.2501 0.2501 2.3661 UPSP:MCCC2_HUMAN	1	<u>K.TDFGIFR.M</u>
<u>2275</u>	1	2	<u>11/16</u>	0.0573 0.0573 2.2997 UPSP:MCCC2_HUMAN	_	R.FLYIWPNAR.I
2587	1	2	26/40	0.6509 0.6509 5.2690 UPSP:MCCC2 HUMAN	_	R.IFGYPVGIVGNNGVLFSESAK.K
2156	1	2	26/34	0.4899 0.4899 5.6998 UPSP:MCCC2 HUMAN	1	R.ISVM*GGEOAANVLATITK.D
2457	1	2	23/34	0.4895.0.4895.5.7545 UPSP:MCCC2_HUMAN	ĩ	R ISVMGGEOA ANVI ATITK D
1704	1	2	20/24	0.4001 0.4001 4.2020 LIPED MCCCC2_HUMAN	÷	D. VIVDDCIIDDADTD I
1/84	1	4	20/24	0.4001 0.4001 4.2929 UPSP:MCCC2_HUMAN	1	<u>R.vwDDGIIDPADTR.L</u>
<u>2107</u>	1	2	21/44	0.5074 0.5074 3.4224 UPSP:PYC_HUMAN	2	K.ASPSPTDPVVPAVPIGPPPAGFR
<u>2355</u>	1	2	<u>16/28</u>	0.4873 0.4873 3.6100 UPSP:PYC_HUMAN	2	K.DFTATFGPLDSLNTR.L
1518	1	2	22/26	0.4145 0.4145 4.7832 UPSP:PYC_HUMAN	2	R.AEAEAQAEELSFPR.S
0882	1	2	<u>17/18</u>	0.0863 0.0863 2.0370 UPSP:PYC_HUMAN	<u>2</u>	R.DAHQSLLATR.V
2760	1	2	18/24	0.4290 0.4290 3.1472 UPSP:PYC HUMAN	1	R.ELIPNIPFQM*LLR.G
2904	1	2	15/24	0.2529.0.2529.2.5493 UPSP-PYC_HUMAN	1	R ELIPNIPEOMLLR G
1315	1	2	14/18	0.1215.0.1215.1.9974 UDSP-DVC HUMAN	2	D EIGDSDEWVD K
1515	1	4	20/22	0.1215 0.1215 1.9974 0FSF.FTC HOMAN	4	R.FIGFSFEVVK.K
1729	1	4	20/32	0.4933 0.4933 4.4194 UPSP:PYC_HUMAN	2	R.GANAVGY INYPDNVVFK.F
<u>2777</u>	1	<u>3</u>	<u>26/84</u>	0.3297 0.3297 3.5389 UPSP:PYC_HUMAN	<u>2</u>	R.SVVEFLQGYIGVPHGGFPEPFR.
1630	1	2	<u>17/18</u>	0.3594 0.3594 3.5652 UPSP:FBXW8_HUMAN	1	K.ILVYSLEAGR.R
<u>2270</u>	1	2	<u>19/30</u>	0.3907 0.3907 3.3251 UPSP:FBXW8_HUMAN	1	K.IVSGGEEGLVSVWDYR.M
2025	1	2	19/22	0.3387 0.3387 3.2658 UPSP:FBXW8 HUMAN	1	K.LVQYLEIVPETR.R
2019	1	2	18/20	0 3763 0 3763 3 3645 UPSP FBXW8 HUMAN	5	K VIAEDEVI WYR I
2045	1	2	22/28	0 2000 0 2000 4 4527 UPSP-EBXW8 HUMAN	-	P EGAGGGEOLVDOLIP D
1074	1	-	19/20	0.2707 0.2707 2.2050 UDED ED XW9 HUMAN	3	D NADI DEETTIID D
1074	1	4	18/20	0.2797 0.2797 <u>5.3030</u> UPSP:FBXW8_HUMAN	+	<u>R.NADLDSFTTRK.R</u>
1462	1	2	15/26	0.2783 0.2783 3.3211 UPSP:FBXW8_HUMAN	1	R.SGNIALSLSAHQLR.V
<u>2232</u>	1	2	21/26	0.4587 0.4587 4.1030 UPSP:PCCB_HUMAN	<u>6</u>	K.DTSYLFITGPDVVK.S
1883	1	2	<u>19/42</u>	0.0397 0.0397 2.8668 UPSP:PCCB_HUMAN	<u>5</u>	K.IM*DQAITVGAPVIGLNDSGGA
<u>1061</u>	1	2	21/30	0.4198 0.4198 4.9663 UPSP:PCCB_HUMAN	<u>6</u>	K.SVTNEDVTQEELGGAK.T
2839	1	2	24/32	0.5356 0.5356 5.8119 UPSP:PCCB HUMAN	6	R.IQEGVESLAGYADIFLR.N
1894	1	2	20/22	0.2659.0.2659.3.8074 UPSP HSP7C HUMAN	4	K DAGTIAGLNVLR I
1840	1	~ 2	21/26	0.4605.0.4605.3.7092 UPSP:HSP7C_HUMAN	4	K SEVDEEVSSM*VI TK M
2716		4	21/20	0.4005 0.4005 <u>5.7092</u> 0131.11317C_110MAN	-	K.SPTTLEVSSMI VLIK.M
2/16	1	2	25/44	0.5891 0.5891 5.4449 UPSP:HSP/C_HUMAN	4	K.SINPDEAVAYGAAVQAAILSGL
<u>1900</u>	1	2	<u>23/34</u>	0.3810 0.3810 4.2849 UPSP:HSP7C_HUMAN	<u>4</u>	K.TVTNAVVTVPAYFNDSQR.Q
<u>2049</u>	1	2	22/28	0.5366 0.5366 4.5951 UPSP:PCCA_HUMAN	<u>2</u>	K.VVEEAPSIFLDAETR.R
<u>1667</u>	1	<u>3</u>	25/52	0.2501 0.2501 3.0198 UPSP:PCCA_HUMAN	<u>3</u>	R.LSQYQEPLHLPGVR.V
1600	1	2	15/20	0.3208 0.3208 3.1775 UPSP:PCCA HUMAN	4	R.M*ADALDNYVIR.G
2003	1	3	27/60	0.0005.0.0005.3.4776 UPSP-PCCA_HUMAN	5	R M*PVIKPDIANWELSVK L
2076	1	2	15/26	0 2393 0 2393 2 3419 UPSP HS70L HUMAN	15	K AFYPEFISSM*VI TK I
2070	1	4	15/20	0.2269 0.2269 2.0066 Uppp. 10701 UD 4431	15	KAM TELEBOOK VETKLE
2094	1	4	15/22	0.2206 0.2208 2.8900 UPSP:HS/UL HUMAN	13	K.DAUVIAULINVLK.I
<u>2698</u>	1	2	13/44	0.4081 0.4081 2.9671 UPSP:HS70L_HUMAN	15	K.SINPDEAVAYGAAVQAAILM*(
<u>1459</u>	1	<u>2</u>	<u>18/24</u>	0.4309 0.4309 3.5593 UPSP:HS70L HUMAN	<u>27</u>	R.TTPSYVAFTDTER.L
<u>2058</u>	1	<u>2</u>	<u>19/26</u>	0.4227 0.4227 3.8537 UPSP:NUCL HUMAN	7	K.GFGFVDFNSEEDAK.A
<u>2857</u>	1	2	25/42	0.4911 0.4911 5.9118 UPSP:NUCL_HUMAN	<u>6</u>	K.TLVLSNLSYSATEETLQEVFEK
2792	1	2	23/40	0.5780 0.5780 5.2820 UPSP:NUCL_HUMAN	5	K.VEGTEPTTAFNLFVGNLNFNK.
1938	1	2	16/18	0.2873 0.2873 3.6891 UPSP:RLAO HUMAN	6	K.IIOLLDDYPK.C
0706	1	2	14/20	0 3366 0 3366 2 4440 UPSP-PL AO HUMAN	<u>~</u>	R GHI ENNPALEK I
/		1.	14/20	VIGOU VIGOU ZITTU UFOFICLAU HUMAN	0	INVESTIGATION PRODUCTION IN TRANSPORT

<u>2</u> 4	<u>472</u>	1 <u>2</u>	<u>21/32</u>	0.5052 0.5052 5.5043 UPSP:RLA0_HUMAN	7	R.VLA
22	266	1 <u>2</u>	<u>22/30</u>	0.4192 0.4192 5.0809 UPTR:Q59FY4_HUMAN	<u>3</u>	K.IIQC
1	904	1 <u>2</u>	<u>19/26</u>	0.1171 0.1171 2.4930 UPTR:Q59FY4_HUMAN	<u>3</u>	R.GGS
1	901	1 <u>2</u>	<u>22/34</u>	0.2880 0.2880 3.5641 UPTR:Q59FY4_HUMAN	<u>3</u>	R.TVE
<u>0</u> ′	7 <u>98</u>	1 2	<u>11/16</u>	0.1888 0.1888 2.3522 UPSP:NPM_HUMAN	<u>18</u>	K.GPS
2	<u>589</u>	1 2	23/40	0.6239 0.6239 4.6132 UPSP:NPM_HUMAN	<u>20</u>	<u>K.M*S</u>
2	<u>533</u>	1 <u>2</u>	<u>19/26</u>	0.2970 0.2970 3.9932 UPSP:NPM_HUMAN	<u>11</u>	<u>R.M*T</u>
0	<u>540</u>	1 2	<u>19/24</u>	0.3327 0.3327 4.6123 UPSP:DECR_HUMAN	<u>2</u>	K.ATA
14	<u>482</u>	1 2	<u>16/24</u>	0.1156 0.1156 2.5887 UPSP:DECR_HUMAN	<u>2</u>	K.VAF
1	<u>592</u>	1 <u>3</u>	<u>27/84</u>	0.3211 0.3211 3.6761 UPSP:DECR_HUMAN	<u>2</u>	K.VAC
0	922	1 2	<u>13/14</u>	0.1143 0.1143 2.3145 GP:M66870 1		R.FDG
0	982	1 2	22/28	0.3936 0.3936 3.9822 GP:M66870 1	-	R.GAS
1	924	1 2	<u>21/26</u>	0.4195 0.4195 4.1809 GP:M66870 1	-	R.VPT
1	<u>890</u>	1 <u>3</u>	<u>29/72</u>	0.2315 0.2315 3.4752 UPTR:Q53EN9 HUMAN	6	K.HSS
2	<u>360</u>	1 2	<u>19/38</u>	0.4075 0.4075 4.3969 UPTR:Q53EN9 HUMAN	6	K.INE
<u>0</u> ′	7 <u>89</u>	1 2	<u>12/20</u>	0.1137 0.1137 2.0907 UPTR:Q53EN9_HUMAN	2	R.RGD
<u>2'</u>	773	1 2	<u>22/30</u>	0.2324 0.2324 3.9932 UPSP:TCPE_HUMAN	<u>3</u>	K.LGF
2	<u>875</u>	1 2	<u>18/32</u>	0.4420 0.4420 4.0095 UPSP:TCPE_HUMAN	<u>3</u>	R.WV0
0	949	1 2	<u>18/30</u>	0.3473 0.3473 3.7787 UPSP:HSP72 HUMAN	8	K.STA
1	903	1 <u>3</u>	23/44	0.2137 0.2137 4.0527 UPSP:HSP72 HUMAN	7	R.ARF
2	811	1 2	<u>18/24</u>	0.4370 0.4370 3.8651 UPSP:RS2_HUMAN	7	K.SLE
2	211	1 2	<u>14/20</u>	0.4109 0.4109 2.9228 UPSP:RS2 HUMAN	<u>8</u>	<u>K.TYS</u>
2	5 <u>48</u>	1 <u>3</u>	32/84	0.3385 0.3385 5.3337 UPSP:HNRPU_HUMAN	2	K.EKP
1	986	1 2	<u>25/30</u>	0.0119 0.0119 5.1561 UPSP:GRP78_HUMAN	<u>18</u>	R.IINE
24	405	1 2	22/28	0.3826 0.3826 4.6294 UPSP:TBA6 HUMAN	<u>8</u>	R.AVF
1	893	1 <u>3</u>	32/60	0.4303 0.4303 4.5035 UPSP:RL4 HUMAN	3	K.API
1	720	1 <u>3</u>	<u>28/96</u>	0.3142 0.3142 4.3642 UPTR:Q96FW6_HUMAN	<u>1</u> 8	R.ISTE
14	<u>432</u>	1 2	<u>18/24</u>	0.3204 0.3204 4.2556 UPSP:COA2_HUMAN	2	K.EAS
20	022	1 2	<u>23/30</u>	0.4136 0.4136 4.2360 UPSP:HSP71_HUMAN	2	R.IINE
1	101	1 2	22/28	0.2959 0.2959 4.0354 GP:BC022805_1	1	K.GTA
<u>2</u> (083	1 <u>3</u>	25/84	0.3031 0.3031 4.0322 UPTR:Q9NQS8_HUMAN	1 5	<u>K.FVD</u>
2	203	1 <u>2</u>	20/36	0.4141 0.4141 4.0315 UPSP:RL9_HUMAN	1	K.TILS
1	713	1 <u>2</u>	<u>20/26</u>	0.3716 0.3716 3.9831 UPTR:Q5VVC8_HUMAN	<u>8</u>	K.VLE
20	027	1 <u>2</u>	22/34	0.4536 0.4536 3.9612 UPSP:TCPH_HUMAN	<u>3</u>	K.VQC
2	381	1 2	<u>21/28</u>	0.3859 0.3859 3.8553 UPSP:IF2B_HUMAN	<u>4</u>	K.DAS
2	385	1 2	<u>18/26</u>	0.4023 0.4023 3.8533 UPSP:RL7 HUMAN	7	R.IVEI
2	000	1 <u>3</u>	<u>27/76</u>	0.2011 0.2011 3.8384 UPSP:MUC2 HUMAN	1	R.EVG
2	563	1 3	31/108	0.3080 0.3080 3.7911 UPTR:Q7Z561_HUMAN	<u>3</u>	<u>K.M*A</u>
20	073	1 3	28/68	0.3904 0.3904 3.4785 UPSP:EFG2_HUMAN	<u>3</u>	R.VNL
1	516	1 <u>2</u>	<u>16/20</u>	0.1198 0.1198 3.4583 UPSP:G3PT_HUMAN	<u>4</u>	K.AGL
2	255	1 2	16/24	0.4014 0.4014 3.3386 UPTR:Q8TCX0_HUMAN	1	K.GQS
2	253	1 2	17/24	0.2877 0.2877 3 1118 UPSP RL18 HUMAN	3	КПЛ

ALSVETDYTFPLAEK.V QAGQVWFPDSAFK.T SWVVIDSSINPR.H ELSIPADPANLDSEAK.I <u>SSVEDIK.A</u> SVQPTVSLGGFEITPPVVLR. IDQEAIQDLWQWR.K AEQISSQTGNK.V TTGGGTGLGK.G GHPNIVINNAAGNFISPTER. <u>5TVEVK.D</u> SQNIIPSSTGAAK.A PNVSVVDLTVR.L SDASSLLPQNILSQTSR.H VLTAAVTQASLQSIIHK.F DSQPYQALK.Y FAGLVQEISFGTTK.D GGPEIELIAIATGGR.I AGDTHLGGEDFDNR.M EELNADLFR.G EEIYLFSLPIK.E SYLTPDLWK.E PYFPIPEEYTFIQNVPLEDR.X EPTAAAIAYGLDK.R VDLEPTVIDEVR.T RPDIVNFVHTNLR.K PQTNTVPIKPLISTPPVSSQPI SFEYLQNEGER.L EPTAAAIAYGLDR.T AAAAAAAAAAAX OGLM*IHSGDPVNYYVDTA SNQTVDIPENVDITLK.G EQLTGQTPVFSK.A GGALEDSQLVAGVAFK.K SDDLDDLNFFNQK.K PYIAWGYPNLK.S GQYLVVESSTGIIVIWDK.R ADHYVPVPGGPNNNNYAN' LIDTPGHVDFTLEVER.C IALNDNFVK.L SLQDPFLNALR.R FDQLALDSPK.G

Position	Forward Primer	Reverse Primer
P21-1 in Figure3	AGCAGGCTGTGGCTCTGATT	CAAAATAGCCACCAGCCTCTTCT
<i>P21-2</i> in Figure3	CTGTCCTCCCCGAGGTCA	ACATCTCAGGCTGCTCAGAGTCT
<i>P21-3</i> in Figure3 <i>P21-1</i> in Figure6	TATATCAGGGCCGCGCTG	GGCTCCACAAGGAACTGACTTC
<i>P21-4</i> in Figure3 <i>P21-2 in Figure6</i>	CCAGGAAGGGCGAGGAAA	GGGACCGATCCTAGACGAACTT
P21-5 in Figure3 P21-3 in Figure6	AGCCGGAGTGGAAGCAGA	AGTGATGAGTCAGTTTCCTGCAAG
P21-6 in Figure3 P21-4 in Figure6	CCAGGGCTGCGATTAGGAA	GTGTCCCTCAGGGTGTGAAT
P21-5 in Figure6	ACCCCCTTTCCTGGACACTC	GTCACCCTGCCCAACCTTAG
<i>P21-7</i> in Figure3 <i>P21-6 in Figure6</i>	CCTCCCACAATGCTGAATATACAG	AGTCACTAAGAATCATTTATTGAGCAC

Supplementary Table S3. Primer sequences for ChIP-qPCR analysis of the *p21* locus.

Supplementary Table S4. Primer sequences for ChIP-qPCR analysis of the *PUMA* locus.

Position	Forward Primer	Reverse Primer
PUMA-1 in Figure S4	TCAGTGTGTGTGTGTCCGACTGTC	GGCAGGGCCTAGCCCA
<i>PUMA-2</i> in Figure S4 <i>PUMA-1</i> in Figure S7	GCCCTCCTGAAGGAAGCC	GCCTGCACTCCTGTCACCT
<i>PUMA-3</i> in Figure S4 <i>PUMA-2</i> in Figure S7	GTGGAGTCTGCGGCTCCT	CCAATAACCGGCTGTTGC
<i>PUMA-</i> 4 in Figure S4 <i>PUMA-</i> 3 in Figure S7	GTTGCTGACAGTTGGTGATGA	ACATGCCATCAGACCTCAACA
<i>PUMA-5</i> in Figure S4 <i>PUMA-4</i> in Figure S7	AGGTGCTGCTCCGCCA	CCCTCTGCCTCTCCAAGGTC
<i>PUMA</i> -6 in Figure S4 <i>PUMA</i> -5 in Figure S7	GAAGTCCCACCTGCCGTCTA	GGACGACCTCAACGCACAGT

Supplementary Table S5. Primer sequences for RT-PCR analysis of *p21* mature and pre-mRNA expression.

Gene	Forward Primer	Reverse Primer
<i>p21</i> pre-mRNA	TGAGGTGACACAGCAAAGCC	GCCATTAGCGCATCACAGTC
<i>p21</i> mature mRNA	CCTCCCACAATGCTGAATATACAG	AGTCACTAAGAATCATTTATTGAGCAC
GAPDH	ACCCACTCCTCCACCTTTGA	CTGTTGCTGTAGCCAAATTCGT

Supplementary Table S6. Primer sequences for RT-PCR analysis of *PUMA* mature and pre-mRNA expression.

.

Gene	Forward Primer	Reverse Primer
PUMA pre-mRNA	AGGATAGGTTGCAGTCCATC	CTCATCCAGGACATGAGAC
PUMA mature-mRNA	CAATCTCATCATGGGACTCC	GTCCAGTATGCTACATGGTG
GAPDH	ACCCACTCCTCCACCTTTGA	CTGTTGCTGTAGCCAAATTCGT