Supporting information

Yolk-shell magnetic mesoporous TiO_2 microspheres with flowerlike NiO nanosheets for highly selective enrichment of phosphopeptides

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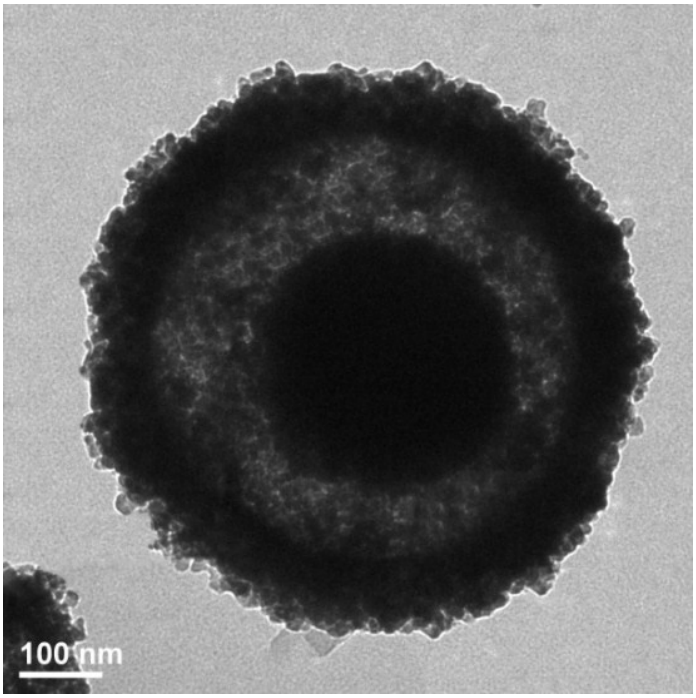

Fig. S1 TEM image of Fe_3O_4@H-TiO_2 microspheres

Table S1. Detail information of the identified phosphopeptides enriched from the tryptic digests of *α*-casein and non-fat milk by using Fe_3O_4@H-TiO_2 or Fe_3O_4@H-TiO_2@*f*-NiO microspheres.

NO.	$[M+H]^+$	peptide sequence	NO. of Phosphate groups	Fe_3O_4@H-TiO_2		Fe_3O_4@H-TiO_2@*f*-NiO	
				α-Casein	Non-fat milk	α-Casein	Non-fat milk
α1	1026.42	EKVNEL[pS]K	1				√
α2	1237.37	TVDME[pS]TEVF	1	√		√	√
α3	1253.36	TVD[Mo]E[pS]TEVF	1	√		√	√
α4	1411.39	EQL[pS]T[pS]EENSK	2		√	√	√
α5	1459.52	EQL[pS]TSEENSKK	1			√	
α6	1466.51	TVDME[pS]TEVFTK	1	√	√	√	√
α7	1482.50	TVD[Mo]E[pS]TEVFTK	1		√	√	√
α8	1539.47	EQL[pS]T[pS]EENSKK	2	√		√	√
α9	1594.58	TVDME[pS]TEVFTKK	1			√	
α10	1660.67	VPQLEIVPN[pS]AEER	1	√	√	√	√
α11	1832.71	YLGEYLIVPN[pS]AEER	1	√	√	√	√
α12	1847.59	DIGSE[pS]TEDQAMEDIK	1		√	√	√
α13	1927.55	DIG[pS]E[pS]TEDQAMEDIK	2	√	√	√	√
α14	1943.53	DIG[pS]E[pS]TEDQA[Mo]EDIK	2	√	√	√	√
α15	1951.81	YKVPQLEIVPN[pS]AEER	1	√	√	√	√
α16	1981.44	NMAINP[pS]KENLCSTFCK	1	√		√	√
α17	2079.88	KYKVPQLEIVPN[pS]AEER	1			√	
α18	2618.69	NTMEHV[pS] [pS] [pS]EE[pS]IISQETYK	4	√		√	√
α19	2634.67	NT[Mo]EHV[pS] [pS][pS]EE[pS]IISQETYK	4	√		√	√
α20	2677.80	VNEL[pS]KDIG[pS]E[pS]TEDQAMEDIK	3	√		√	
α21	2703.70	Q*MEAE[pS]I[pS][pS][pS]EEIVPN[pS]VEAQK	5	√	√	√	√
α22	2720.69	QMEAE[pS]I[pS] [pS] [pS]EEIVPN[pS]VEAQK	5	√	√	√	√
α23	2736.66	Q[Mo]EAE[pS]I[pS] [pS] [pS]EEIVPN[pS]VEAQK	5	√		√	√
α24	2746.77	NTMEHV[pS] [pS] [pS]EE[pS]IISQETYKQ	4	√	√	√	√
α25	2934.93	KEKVNEL[pS]KDIG[pS]E[pS]TEDQAMEDIKQ	3	√		√	√
α26	2951.93	KEKVNEL[pS]KDIG[pS]E[pS]TEDQA[Mo]EDIKQ	3			√	
α27	3007.80	NANEEEYSIG[pS][pS][pS]EE[pS]AEVATEEVK	4	√	√	√	√
α28	3087.75	NANEEEY[PS]IG[PS][PS][PS]EE[PS]AEVATEEVK	5	√		√	
β1	1031.33	FQ[pS]EEQQQTEDELQDK	1				√
β2	2061.61	FQ[PS]EEQQQTEDELQDK	1	√	√	√	√
β3	2352.63	NVPGEIVESL[pS][pS][pS]EE[pS]ITR	4		√		√
β4	2431.87	IEKFQ[pS]EEQQQTEDELQDK	1				√
β5	2555.90	FQ[pS]EEQQQTEDELQDKIHPF	1	√		√	√
β6	2965.87	ELEELNVPGEIVE[pS]L[pS][pS][pS]EESITR	4		√		√
β7	3041.98	RELEELNVPGEIVESL[pS][pS][pS]EESITR	3				√
β8	3122.02	RELEELNVPGEIVE[PS]L[PS][PS][PS]EESITR	4	√	√	√	√

[pS]: Phosphorylated site; [Mo]: oxidation on methionine; *: Pyroglutamylation on the N-terminal Q;

√: Identified peptide.

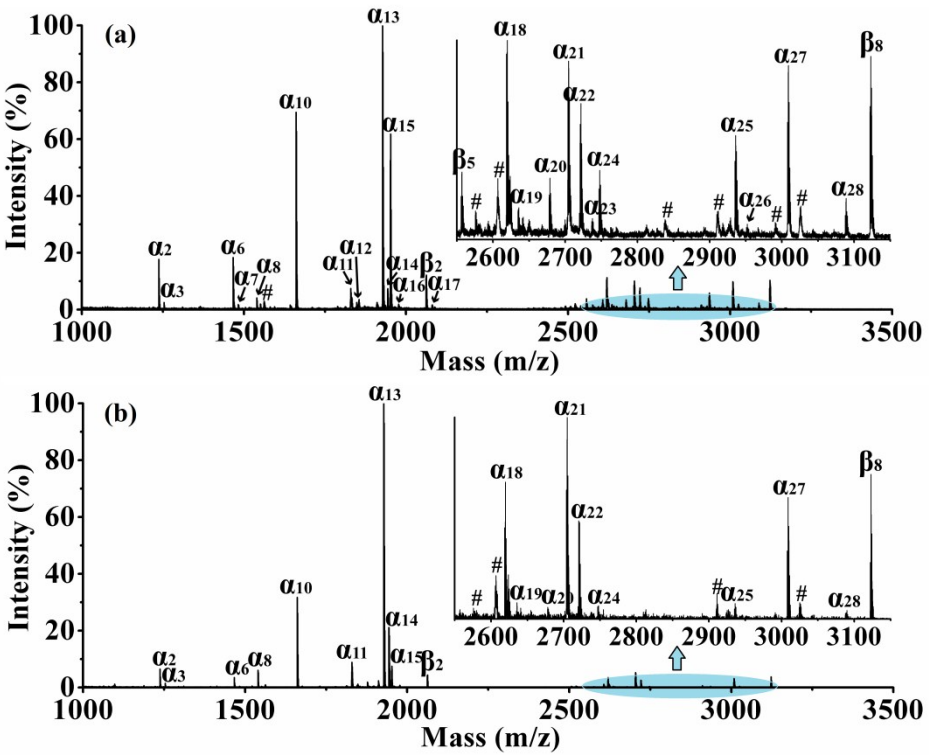

Fig. S2 MALDI-TOF mass spectra of the tryptic digest of α-casein (4×10^{-7} M, 200 μL) after rapid enrichment (Incubation time: 1 min; Elution time: 1 min). Enriched by (a) Fe_3O_4@H-TiO_2@*f*-NiO and (b) Fe_3O_4@H-TiO_2 microspheres. # indicates dephosphorylated peptides.

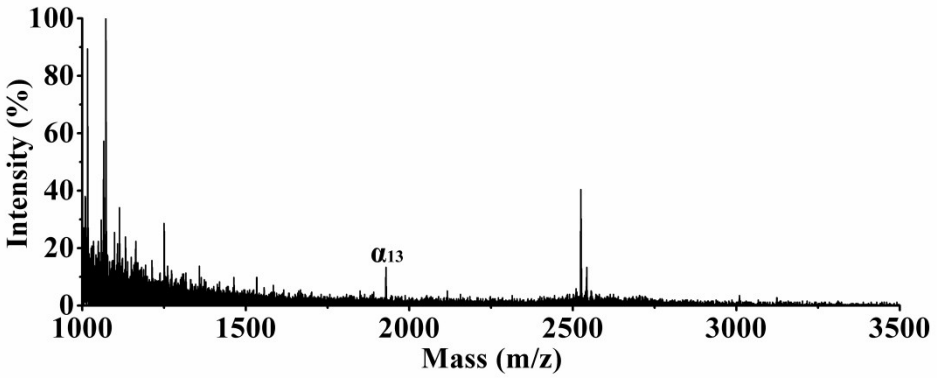

Fig. S3 MALDI-TOF mass spectra of the tryptic digest mixtures of α-casein and BSA after enrichment by Fe_3O_4@H-TiO_2 microspheres at a molar ratio of 1:5000.

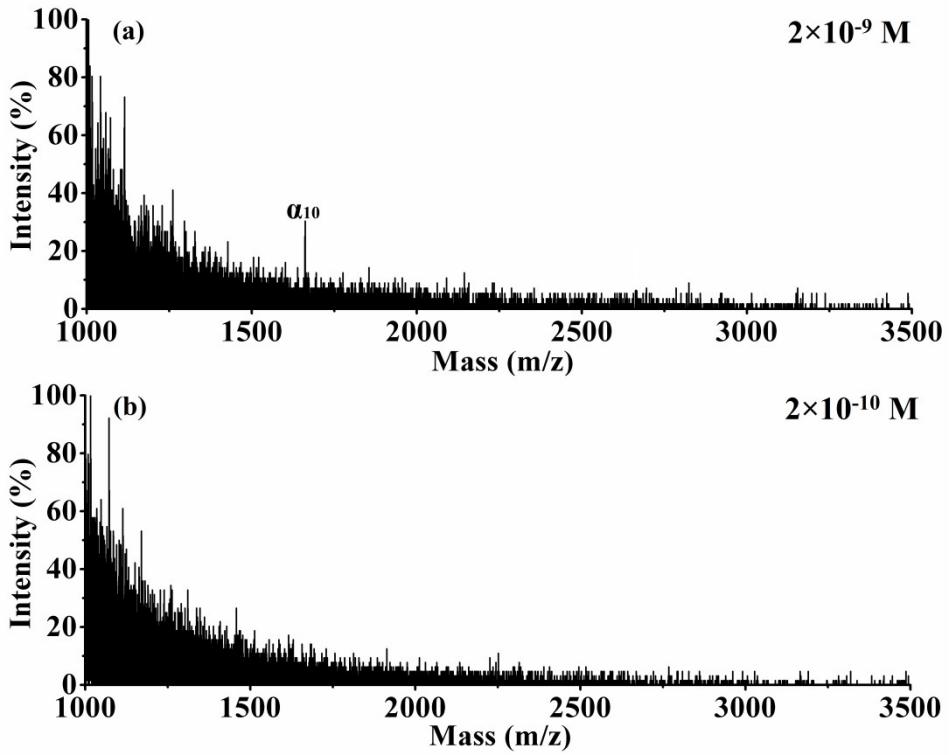

Fig. S4 MALDI-TOF mass spectra of phosphopeptides enriched from α-casein tryptic digest with different concentrations using Fe_3O_4@H-TiO_2 microspheres.

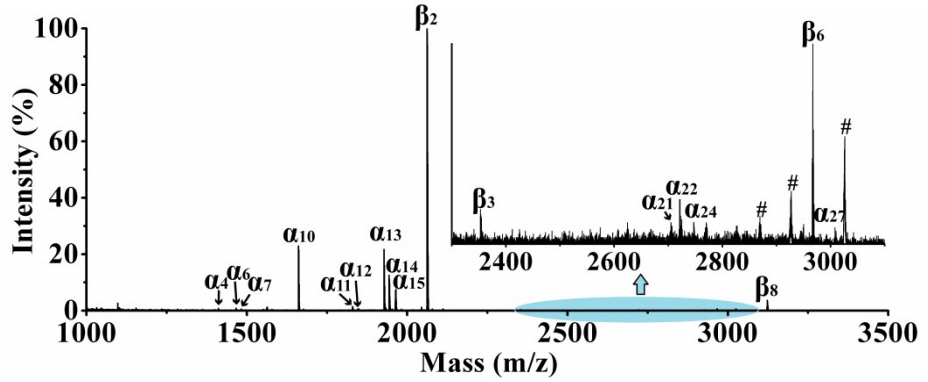

Fig. S5 MALDI-TOF mass spectra of the tryptic digest of non-fat milk after enrichment by Fe_3O_4@H-TiO_2 microspheres. # indicates dephosphorylated peptides.

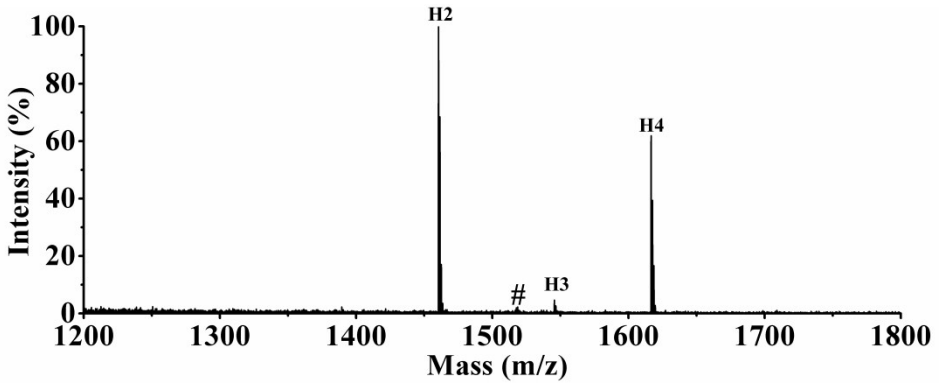

Fig. S6 MALDI-TOF mass spectra of human serum after enrichment by Fe_3O_4@H-TiO_2 microspheres. # indicates dephosphorylated peptides.

Table S2. Detail information of the endogenous phosphopeptides enriched from healthy human serum by using Fe_3O_4@H-TiO_2@*f*-NiO microspheres.

NO.	observed m/z	peptide sequence	NO. of Phosphate groups
H1	1389.4	AD[pS]GEGDFLAEGGGV	1
H2	1460.5	D[pS]GEGDFLAEGGGV	1
H3	1545.5	D[pS]GEGDFLAEGGGVR	1
H4	1616.6	AD[pS]GEGDFLAEGGGVR	1

[pS]: Phosphorylated site.

Table S3. Detail information of the phosphopeptides enriched from HeLa cell extracts by using Fe_3O_4@H-TiO_2@*f*-NiO microspheres. Phosphorylation sites are indicated by s*, t* and y* at serine, threonine and tyrosine respectively.

No.	Protein	Pepitde sequence	$[M+H]^+$	RT[min]	IonScore
1	A6NMY6	LSLEGDHSTPPSAy*GSVK	1924.87	35.72	67.85
2	A8TX70	GVQGSPSSRGs*R	1254.56	42.91	24.51
3	O00178	LHGGFDs*Dcs*EDGEALNGEPELDLTSK	3052.19	59.21	25.79
4	O00193	SAs*PDDDLGSSNWEAADLGNEER	2514.99	55.31	112.22
		SAs*PDDDLGSSNWEAADLGNEERK	2643.08	47.93	37.71
5	O00264	EGEEPTVYs*DEEEPKDESAR	2375.94	33.38	79.09
		GDQPAASGDs*DDDEPPPLPR	2115.85	40.66	137.18
		IVRGDQPAAs*GDSDDDEPPPLPR	2484.11	37.45	14.79
6	O00267	DVTNFTVGGFAPMs*PR	1775.79	64.67	30.98
7	O00425	Gs*s*RQGSPGSVSK	1393.55	19.22	33.37
8	O00505	NVPQEESLEDs*DVDADFK	2116.86	50.36	24.48
9	O00567	SFSKEELMs*SDLEETAGSTSIPK	2553.13	51.10	27.83
		SFs*KEELMSSDLEETAGSTSIPKR	2709.23	46.27	15.43
10	O14545	LDSQPQETs*PELPR	1676.75	37.84	18.66
11	O14737	KVMDs*DEDDDY	1411.46	35.03	48.32
		RKVMDs*DEDDDY	1567.56	31.36	70.91
12	O14745	EALAEAALEs*PRPALVR	1872.95	46.58	25.31
13	O15164	NEs*EDNKFSDDs*DDDFVQPR	2518.88	45.67	43.05
14	O15173	LLKPGEEPSEYt*DEEDTKDHNKQD	2897.24	30.70	35.33
15	O15357	TLSEVDy*APAGPAR	1526.69	37.97	55.51
16	O43159	ALEAASLSQHPPSLcIs*Ds*EEEEEER	3073.26	53.35	33.19
		ALEAASLSQHPPs*LcISDs*EEEEEER	3073.24	53.27	20.56
17	O43491	VEGDNIy*VR	1144.50	34.08	29.38
18	O43719	RSDs*VSASER	1173.49	18.65	37.21
		SDs*VSASER	1017.39	20.19	48.62
		VFDDEs*DEKEDEEYADEK	2271.84	37.28	28.00
		VLDEEGs*EREFDEDs*DEKEEEEDTYEK	3440.26	42.40	18.82
19	O43765	SRTPs*ASNDDQQE	1514.57	20.57	60.75
20	O43823	VDs*EGDFs*ENDDAAGDFR	2105.70	55.43	38.87
21	O43896	LYADs*Ds*GDDSDKR	1703.58	26.33	37.90
22	O60231	LLEDs*EEs*SEETVSR	1869.70	43.61	121.43
23	O60271	SAs*Qs*SLDKLDQELK	1808.78	48.63	35.44
24	O60341	EMDESLANLs*EDEYYs*EEER	2597.91	62.18	39.65
25	O60343	LGs*VDSFER	1089.46	42.09	41.34
		Ts*s*TcSNESLSVGGTSVTPR	2186.87	46.88	78.68
26	O60504	LcDDGPQLPTs*PR	1535.66	40.64	34.40
27	O60678	GAVENEEDLPELs*Ds*GDEAAWEDEDDADLPHGK	3714.42	61.28	71.08
28	O60716	SLDNNy*STPNER	1489.59	26.67	64.02
29	O60832	AGLESGAEPGDGDSDt*TK	1786.70	30.56	29.73

		AGLESGAEPGDGDs*DTTK	1786.70	30.88	32.75
		KREs*Es*Es*DETPPAAPQLIK	2451.99	43.44	32.75
		KREs*Es*ESDETPPAAPQLIK	2372.05	39.41	31.58
30	O60841	NKPGPNIEs*GNEDDDASFK	2113.87	34.17	112.95
		Qs*FDDNDSEELEDKDSK	2080.78	32.73	35.54
		SRINs*s*GEs*GDEs*DEFLQSR	2519.83	62.69	22.30
		VEMYs*Gs*DDDDDFNKLPK	2234.82	52.00	51.14
		VEmy*s*GSDDDDDFNKLPK	2250.82	46.87	11.60
31	O75116	SQLQALHIGLDSs*s*IGSGPGDAEADDGFPESR	3373.42	64.71	53.18
		SQLQALHIGLDs*SSIGs*GPGDAEADDGFPESR	3373.42	65.69	38.48
32	O75400	HKs*Ds*PEs*DAEREK	1854.64	21.00	26.30
33	O75475	TGVt*STs*DSEEEGDDQEGEK	2259.77	30.76	35.32
		TGVt*STSDs*EEEGDDQEGEK	2259.77	30.66	55.14
		TGVTs*TSDs*EEEGDDQEGEK	2259.77	30.47	42.58
		TGVt*STSDs*EEEGDDQEGEKK	2387.86	24.75	30.99
		TGVt*STs*DSEEEGDDQEGEKK	2387.86	24.92	35.00
		TGVt*STSDs*EEEGDDQEGEKKR	2543.97	22.28	84.39
		TGVTSTs*Ds*EEEGDDQEGEKKR	2543.96	22.49	80.16
34	O75643	EEAs*DDDMEGDEAVVR	1846.67	39.72	120.97
		EEAs*DDDmEGDEAVVR	1862.67	32.90	41.34
35	O75821	GIPLATGDTs*PEPELLPGAPLPPPK	2544.30	63.91	15.13
		GIPLAt*GDTSPEPELLPGAPLPPPK	2544.29	63.29	25.57
36	O75822	AAAAAAAGDs*Ds*WDADAFSVEDPVR	2625.01	76.39	43.33
37	O75909	KPs*PQPs*SPR	1240.51	18.96	41.38
		KPs*PQPSs*PR	1240.51	18.91	38.21
38	O76021	At*NESEDEIPQLVPIGK	1919.90	57.79	39.94
39	O94826	As*PAPGSGHPEGPGAHLDMNSLDR	2450.05	38.78	22.84
40	O94875	SFTSSSPSs*PSR	1306.53	26.52	54.25
		SFTSSSPs*s*PSR	1386.50	30.83	46.88
41	O94913	s*RSPIIHs*PK	1281.58	23.05	36.54
42	O95218	ENVEYIEREEs*DGEYDEFGR	2545.00	48.67	42.39
		EVEDKEs*EGEEEDEDEDLSK	2419.90	30.40	16.67
43	O95361	Et*EEQDSDSAEQGDPAGEGK	2158.79	24.86	48.20
44	O95425	DSSFTEVPRs*PK	1429.64	32.77	27.70
45	O95671	HDSIPAADt*FEDLSDVEGGGSEPTQR	2810.18	53.22	27.48
46	O95817	VPPAPVPcPPPSPGPs*AVPSs*PK	2379.09	48.19	24.78
47	P00533	ELVEPLt*PSGEAPNQALLR	2114.05	55.91	29.67
48	P00558	ALEs*PERPFLAILGGAK	1848.96	64.33	14.91
49	P01111	QVVIDGETcLLDILDTAGQEEy*SAMR	3006.35	82.50	60.20
50	P02545	ASSHs*s*QTQGGGSVTK	1678.65	18.97	86.87
		ASs*HSSQTQGGGSVTK	1598.68	17.93	91.80
		ASs*Hs*SQTQGGGSVTKK	1806.74	17.87	34.42
		GRASs*Hs*SQTQGGGSVTK	1891.77	18.18	27.56
		KLESTEs*R	1029.46	18.26	35.07

		LRLs*PSPTSQR	1321.66	29.87	42.50
		LRLs*Ps*PTSQR	1401.63	33.99	37.87
		LSPs*PTSQR	1052.48	22.38	52.76
		SGAQASSt*PLs*PTR	1519.62	30.39	58.64
		SGAQASSTPLs*PTR	1439.65	28.65	76.87
		s*VGGSGGGSFGDNLVTR	1646.72	45.47	42.36
51	P02786	SAFSNLFGGEPLSy*TR	1825.82	67.17	41.52
52	P04004	Ds*WEDIFELLFWGR	1892.83	86.22	54.92
53	P04792	ALs*RQLs*SGVSEIR	1662.76	43.10	33.44
		GPs*WDPFR	1041.42	59.67	32.75
		GPs*WDPFRDWYPHSR	1982.83	62.02	28.30
		QLs*SGVSEIR	1155.54	36.20	63.94
54	P05386	KEEs*EEs*DDDMGFGLFD	2109.69	83.08	82.75
		KEESEEs*DDDMGFGLFD	2029.73	70.87	56.52
		KEEs*EEs*DDDmGFGLFD	2125.69	75.85	75.68
55	P05387	KEEs*EEs*DDDmGFGLFD	2125.69	75.85	75.68
		KEESEEs*DDDmGFGLFD	2045.72	62.82	16.05
		KEEs*EEs*DDDMGFGLFD	2109.69	83.08	82.75
		KEESEEs*DDDMGFGLFD	2029.73	70.87	56.52
56	P05388	VEAKEEs*EEs*DEDMGFGLFD	2422.86	81.81	45.09
57	P05455	FAs*DDEHDEHDENGATGPVKR	2405.96	25.45	41.00
		TKFAs*DDEHDEHDENGATGPVKR	2635.09	27.38	13.33
58	P05556	WDTGENPIy*K	1302.54	42.37	39.66
59	P05787	s*YTSGPGSR	991.39	21.88	38.23
		SYt*SGPGSR	991.39	22.33	37.62
60	P06239	LIEDNEy*TAR	1303.55	29.78	43.19
61	P06493	IGEGTy*GVVYK	1265.58	38.64	36.73
62	P06748	cGSGPVHISGQHLVAVEEDAEs*EDEEEEDVK	3460.44	45.13	99.85
63	P07355	LSLEGDHSTPPSAy*GSVK	1924.87	36.05	84.01
64	P07814	EYIPGQPPLSQSSDs*SPTR	2125.95	44.82	36.76
		EYIPGQPPLSQSs*DSSPTR	2125.95	44.65	38.13
		EYIPGQPPLSQs*SDSSPTRNSEPAGLETPEAK	3449.57	46.49	12.28
65	P07900	ESEDKPEIEDVGs*DEEEEKK	2400.98	30.92	51.15
		Es*EDKPEIEDVGSDEEEEKKDGDK	2816.15	29.64	36.53
66	P07910	MESEGGADDs*AEEGDLLDDDDNEDR	2778.97	49.08	27.73
		MEs*EGGADDSAEEGDLLDDDDNEDR	2778.98	49.15	49.78
		MESEGGADDs*AEEGDLLDDDDNEDRGDDQLELIKDDEK	4277.68	53.68	29.64
		NDKs*EEEQSSSSVK	1633.66	18.60	93.91
67	P08238	IEDVGs*DEEDDSGK	1574.58	28.79	71.60
		IEDVGs*DEEDDSGKDK	1817.69	25.17	116.21
		IEDVGs*DEEDDSGKDKK	1945.79	22.39	107.27
68	P08240	GTGs*GGQLQDLDcs*s*SDDEGAAQNSTKPSATK	3409.28	42.41	27.39
69	P09601	DQs*PSRAPGLR	1263.58	24.87	20.07
70	P09651	SEs*PKEPEQLR	1379.62	27.06	45.59

71	P0DJ93	ELVGDTGSQEGDHEPs*Gs*ETEEDTSSSPHR	3316.24	31.69	34.78
72	P10398	SAs*EPSLHR	1063.46	21.94	63.13
73	P10644	TDSREDEIs*PPPPNPVVK	2056.96	36.86	42.11
74	P10809	TVIIEQSWGs*PK	1424.68	48.34	29.71
75	P11388	IKNENTEGs*PQEDGVELEGLK	2366.07	41.69	19.76
76	P11717	ALs*s*LHGDDQDSEDEVLTIPEVK	2657.13	60.13	19.52
		ALSSLHGDDQDs*EDEVLTIPEVK	2577.16	53.59	40.15
		LVSFHDDs*DEDLLHI	1834.79	59.73	10.66
77	P12270	TDGFAEAIHs*PQVAGVPR	1931.90	46.54	20.65
78	P13051	KAPAGQEEPGTPPs*s*PLSAEQLDR	2622.14	43.54	20.47
79	P13639	AGETRFt*DTR	1233.52	23.99	29.40
		Ft*DtRKDEQER	1584.61	20.40	20.88
80	P13861	RVs*VcAETYNPDEEEEDTDPR	2591.03	38.60	38.24
		VADAKGDs*Es*EEDEDLEVPVPSR	2633.06	48.16	90.76
81	P15151	ENs*SSQDPQTEGTR	1615.63	20.66	28.03
		ENSs*SQDPQTEGTR	1615.62	20.78	24.48
82	P15408	s*PPAPGLQPMR	1230.57	38.26	27.39
83	P16949	ASGQAFELILs*PR	1468.72	60.67	91.21
		As*GQAFELILs*PR	1548.68	70.73	64.96
		ESVPEFPLs*PPK	1406.66	55.20	36.08
		ESVPEFPLs*PPKKK	1662.86	39.57	16.96
		RAs*GQAFELILs*PR	1704.79	60.11	78.16
		SKESVPEFPLs*PPK	1621.79	47.46	42.99
84	P17096	KLEKEEEEGIs*QEs*s*EEEQ	2476.89	36.53	90.11
		KLEKEEEEGISQEs*s*EEEQ	2396.93	33.24	72.06
		KQPPVs*PGTALVGSQKEPSEVPt*PK	2718.31	39.70	16.40
85	P17544	TDSVIIADQt*Pt*PTR	1774.77	45.98	26.60
86	P17812	SGSs*SPDSEITELKFPSINHD	2327.01	56.62	22.38
		SGs*SSPDSEITELKFPSINHD	2327.01	56.39	28.61
87	P18054	Rs*Ts*LPSR	1063.43	19.23	32.42
88	P18583	DTEEPLPVKESDQTLAALLs*PK	2461.22	66.55	24.19
		ESDQTLAALLs*PK	1452.69	60.36	56.22
		RRs*Fs*Is*PVR	1444.59	38.33	32.81
		s*Fs*Is*PSRR	1276.45	42.56	30.17
89	P18615	SIs*ADDDLQESSR	1133.47	18.20	56.31
		SGAHSSAs*PPR	1502.60	34.87	69.54
90	P18858	TIQEVLEEQs*EDEDREAK	2227.96	41.34	13.23
		VLGs*EGEEEDEALs*PAK	1919.76	47.03	63.88
		VLGs*EGEEEDEALSPAK	1839.79	43.36	18.26
91	P19105	ATs*NVFAMFDQSQIQEFK	2170.95	72.96	60.88
92	P19338	AAAAAPAs*EDEDDEDDEDDEDDDDDEEDDs*EEEAMETTPAK	4606.50	49.75	72.17
		KEDs*DEEEDDDs*EEDEEDDEDEDEDEDEIEPAAMK	4279.38	51.04	115.36
		KEDs*DEEEDDDs*EEDEEDDEDEDEDEDEIEPAAmK	4295.36	43.41	60.28
		KVVVs*PTK	937.51	20.59	65.55

		KVVVs*PTKK	1065.61	19.95	64.16
		LELQGPRGs*PNAR	1474.71	30.65	29.32
		mAPPPKEVEEDs*EDEEMs*EDEEDDs*s*GEEVVIPQKK	4398.60	49.34	24.26
		MAPPPKEVEEDs*EDEEMsvEDEEDDs*s*GEEVVIPQKK	4302.64	47.31	21.36
		MAPPPKEVEEDs*EDEEMs*EDEEDDs*SGEEVVIPQKK	4302.62	47.64	21.99
		MAPPPKEVEEDs*EDEEMSEDEEDDs*s*GEEVVIPQKK	4382.59	51.90	23.07
		VVVs*PTKK	937.51	19.29	33.01
93	P20020	IEDs*EPHIPLIDDTDAEDDAPTKR	2772.22	48.80	20.09
94	P20700	AGGPTt*PLs*PTR	1314.55	34.17	34.98
		LKLs*Ps*PSSR	1231.55	31.84	46.75
		LKLs*PSPSSR	1151.58	28.64	40.11
		LSPs*PSSR	910.40	21.58	39.71
		VTVSRAs*SSR	1129.54	18.49	21.68
95	P20810	EGITGPPADSSKPIGPDDAIDALSSDFTcGs*PTAAGK	3682.65	63.91	28.87
		KEGITGPPADSSKPIGPDDAIDALSSDFTcGs*PTAAGK	3810.74	57.29	33.14
96	P21291	GFGFGQGAGALVHs*E	1513.65	54.58	38.02
97	P21333	AFGPGLQGGSAGs*PAR	1509.68	38.23	104.11
		cSGPGLs*PGMVR	1297.54	41.24	84.74
98	P21796	LTFDSSFs*PNTGKK	1608.73	41.25	32.23
99	P22059	MLAEs*DEs*GDEESVSQTDKTELQNTLR	3172.29	52.80	65.54
		mLAESDEs*GDEEs*VSQTDKTELQNTLR	3188.29	49.88	57.18
100	P22492	KPRAt*t*PK	1058.48	16.87	23.50
101	P23193	EPAITSQNs*PEAR	1479.65	27.76	43.17
		KKEPAIt*SQNSPEAR	1735.84	22.90	31.19
		KKEPAITSQNs*PEAR	1735.84	23.76	25.76
102	P23396	DEILPTt*PISEQK	1550.73	47.13	41.49
103	P23497	VIGQDHDFs*Es*s*EEEAPAEASSGALR	2958.13	53.44	49.83
104	P23588	SQSSDt*EQQs*PTSGGGK	1840.66	21.10	33.94
		SQs*SDTEQQSPTSGGGK	1760.70	20.37	44.72
		SRt*GSESSQTGTSTTSSR	1896.80	18.28	67.49
		SRTGs*Es*SQTGTSTTSSR	1976.75	19.23	58.11
		SRTGs*ESSQTGTSTTSSR	1896.79	18.36	50.68
		t*GSESSQTGTSTTSSR	1653.66	19.36	89.12
		TGSEs*s*QTGTSTTSSR	1733.63	21.79	61.03
		TGs*ESSQTGTSTTSSR	1653.65	19.43	90.84
105	P24534	YGPADVEDTTGSGATDSKDDDDIDLFGs*DDEEESEEAK	4104.60	57.30	64.03
		YGPADVEDTTGSGATDSKDDDDIDLFGs*DDEEESEEAKR	4260.69	52.12	80.64
106	P25205	DGDs*YDPYDFSDTEEEMPQVHTPK	2882.10	57.02	40.47
		DGDs*YDPYDFSDTEEEMPQVHt*PK	2962.07	61.84	33.46
		DGDSYDPYDFSDt*EEEMPQVHTPK	2882.11	57.25	30.64
		DGDSYDPy*DFSDTEEEMPQVHTPK	2882.10	57.02	29.03
		DGDSYDPYDFs*DTEEEMPQVHt*PK	2962.07	61.84	31.78
		SEDEs*Et*EDEEEKSQEDQEQKR	2844.03	23.68	79.26
107	P25788	Es*LKEEDESDDDNM	1735.59	33.73	24.67

		ESLKEEDEs*DDDNM	1735.59	33.72	24.05
108	P27361	IADPEHDHTGFLt*Ey*VATR	2331.97	48.14	56.65
		IADPEHDHTGFLTEy*VATR	2252.00	44.23	37.81
109	P27816	DMEs*PTKLDVTLAK	1627.76	45.77	74.50
		ETERAs*PIKMDLAPSK	1852.89	34.61	22.21
110	P27824	AEEDEILNRs*PR	1508.67	32.95	45.46
		QKs*DAEEDGGTVs*QEEEDRKPK	2622.06	23.70	77.87
		QKs*DAEEDGGTVSQEEEDRKPK	2542.10	24.37	41.48
		SDAEEDGGTVs*QEEEDRKPK	2285.93	24.52	32.04
111	P28290	SQs*LPTTLLs*PVR	1558.73	61.98	43.20
		SQs*LPTTLLSPVR	1478.76	56.27	78.08
112	P28482	VADPDHDHTGFLt*Ey*VATR	2303.93	46.63	76.76
		VADPDHDHTGFLTEy*VATR	2223.97	42.80	55.20
113	P29353	ELFDDPs*YVNVQNLDK	1975.87	59.36	50.06
114	P29692	ATAPQTQHVs*PMR	1503.68	24.91	81.52
		ATAPQTQHVs*PmR	1519.67	20.84	53.76
		KPAt*PAEDDEDDDIDLFGs*DNEEEDKEAAQLR	3737.50	55.49	98.68
		KPATPAEDDEDDDIDLFGs*DNEEEDKEAAQLR	3657.52	50.99	127.72
		KPATPAEDDEDDDIDLFGs*DNEEEDKEAAQLREER	4071.71	49.30	83.26
		LNVLEKSs*PGHR	1416.70	27.16	44.52
		QVEPPAKKPATPAEDDEDDDIDLFGs*DNEEEDKEAAQLR	4406.93	47.89	62.25
115	P29966	EAPAEGEAAEPGSPt*AAEGEAASAASSTSSPK	2995.27	43.12	79.45
		EAPAEGEAAEPGs*PTAAEGEAASAASSTSSPK	2995.27	43.00	84.08
		LSGFs*FKK	993.48	40.07	39.47
116	P30050	IGPLGLs*PK	961.51	46.99	60.56
117	P30530	y*VLcPSTTPSPAQPADR	1939.86	39.40	28.52
118	P31943	HTGPNs*PDTANDGFVR	1764.73	31.41	109.11
119	P33991	QRPDLGs*AQK	1179.55	21.32	44.42
120	P35221	TPEELDDs*DFETEDFDVR	2238.86	60.60	132.60
121	P35269	IHDLEDDLEMs*s*DAs*DAs*GEEGGRVPK	3179.13	61.56	47.23
122	P35579	GAGDGs*DEEVDGKADGAEAKPAE	2254.90	27.13	14.96
		KGAGDGs*DEEVDGK	1443.56	19.60	97.47
		KGAGDGs*DEEVDGKADGAEAKPAE	2382.99	24.56	70.89
123	P35606	s*TAQQELDGKPASPTPVIVASHTANKEEK	3113.51	33.01	34.36
		STAQQELDGKPAs*PTPVIVASHTANKEEK	3113.52	34.26	26.83
124	P35659	KEs*Es*EDs*s*DDEPLIK	2127.67	60.34	22.38
		KEs*Es*EDs*s*DDEPLIKK	2255.77	42.85	11.51
125	P36507	LNQPGt*PTR	1063.49	22.08	47.80
126	P38159	GLPPs*MER	966.41	31.21	43.22
127	P40222	RPEGPGAQAPSs*PR	1486.68	22.04	47.36
128	P41236	IDEPSTPy*HSMMGDDEDAcSDTEATEAMAPDILAR	3921.54	61.11	49.45
		IQEQEs*s*GEEDSDLSPEER	2323.85	41.19	147.84
		IQEQEs*s*GEEDSDLSPEEREK	2580.99	34.55	52.35
		YRIQEQEs*s*GEEDSDLSPEER	2643.02	41.39	74.39

129	P42167	EQGTESRSs*t*PLPTISSSAENTR	2595.10	39.16	20.91
		GPPDFs*s*DEEREPt*PVLGSGAAAAGR	2810.10	55.98	39.91
		GPPDFs*s*DEEREPTPVLGSGAAAAGR	2730.14	50.63	66.20
		GPPDFSSDEEREPt*PVLGSGAAAAGR	2650.17	44.02	37.77
		LREQGTEs*R	1155.51	18.26	23.65
		SSt*PLPTISSSAENTR	1727.79	39.19	56.50
130	P43243	RDs*FDDRGPSLNPVLDYDHGSR	2598.14	45.79	36.58
		SYs*PDGKEs*PSDKK	1684.65	19.98	68.57
		s*y*SPDGKEs*PSDKK	1764.62	21.55	21.99
		s*Ys*PDGKEs*PSDKK	1764.62	21.72	26.26
		SYs*PDGKESPSDKK	1604.68	19.89	48.64
131	P46821	Es*s*PLYSPTFSDSTSAVK	2062.83	54.61	45.38
		ESs*PLYs*PTFSDSTSAVK	2062.83	54.15	28.04
		s*LMSs*PEDLTKDFEELKAEEVDVTK	3000.31	76.89	31.07
		SLMs*s *PEDLTKDFEELKAEEVDVTK	3000.31	76.27	37.77
		VLs*PLRs*PPLIGSESAYESFLSADDKASGR	3309.55	66.94	48.95
132	P47712	HIVSNDSSDs*DDESHEPK	2077.80	21.74	24.39
		HIVSNDs*s*Ds*DDESHEPK	2237.73	26.95	13.30
		HIVs*NDSs*DSDDESHEPK	2157.77	23.24	16.66
133	P48634	LIPGPLs*PVAR	1199.65	49.20	43.31
134	P49006	LSGLs*FKR	987.50	37.26	52.40
135	P49321	s*LQENEEEEIGNLELAWDMLDLAK	2869.30	83.58	72.33
136	P49736	GLLYDs*DEEDEERPAR	1973.81	40.92	56.01
137	P49736	GNDPLTSs*PGR	1180.50	30.60	66.13
		RGLLYDs*DEEDEERPAR	2129.91	35.81	26.30
		RGNDPLTs*SPGR	1336.60	26.92	10.40
		RGNDPLt*SSPGR	1336.60	27.33	30.82
		RTDALTSs*PGR	1240.57	22.88	38.16
138	P49756	LGASNs*PGQPNSVK	1435.66	25.16	64.81
139	P49841	GEPNVs*YIcSR	1361.55	37.14	50.53
140	P49959	GVDFEs*s*EDDDDDPFMNTSSLR	2637.91	74.43	26.38
141	P50395	KKNDIy*GED	1161.48	21.04	22.64
142	P50914	AALLKAs*PK	978.54	24.93	49.74
143	P51116	t*DGSIs*GDRQPVTVADYISR	2296.99	54.90	22.30
		TDGs*Is*GDRQPVTVADYISR	2296.98	53.85	56.59
144	P51858	AGDLLEDs*PK	1124.49	36.55	43.71
		AGDLLEDs*PKRPK	1505.74	28.47	51.12
		GNAEGs*s*DEEGKLVIDEPAK	2204.89	42.65	44.82
		GNAEGs*s*DEEGKLVIDEPAKEK	2462.04	37.30	41.44
		RAGDLLEDs*PKRPK	1661.84	28.91	44.50
145	P52292	NVSSFPDDAt*SPLQENR	1956.84	45.87	29.06
		NVs*SFPDDATSPLQENR	1956.84	46.06	27.66
		NVSSFPDDATs*PLQENR	1956.84	46.15	51.85
146	P53396	AKPAMPQDSVPs*PR	1560.72	31.18	57.62

		TAs*FSESR	964.38	25.14	51.45
		t*ASFSESRADEVAPAK	1745.78	32.11	22.08
147	P54105	FEEESKEPVADEEEEDs*DDDVEPITEFR	3394.35	52.38	107.02
148	P55081	IVEPEVVGEs*Ds*EVEGDAWR	2361.94	64.52	88.31
		MEREDs*s*EEEEEEIDDEEIER	2786.97	45.55	70.55
		RPDYAPMEs*s*DEEDEEFQFIKK	2850.13	55.35	57.39
149	P55884	ALENGDADEPs*FSDPEDFVDDVSEEELLGDVLK	3675.57	82.99	38.31
		ALENGDADEPs*FSDPEDFVDDVs*EEELLGDVLK	3755.50	84.46	53.90
		TEPAAEAEAASGPs*ESPSPPAAEELPGSHAEPPVPAQGEAPGEQAR	4538.03	45.78	26.50
150	P56524	QEPIEs*DEEEAEPPREVEPGQR	2630.12	37.56	35.29
151	P58107	QVs*ASELHTSGILGPETLR	2075.01	50.02	84.35
		RQVs*ASELHTSGILGPETLR	2231.12	45.20	61.87
152	P62753	LSs*LRAs*TSK	1209.53	25.23	39.42
		LSs*LRAs*TSKSESSQK	1855.82	22.22	48.41
		Ls*s*LRASTSKSESSQK	1855.82	22.02	29.35
		RLSs*LR	811.42	24.95	37.72
		RLs*s*LR	891.38	30.72	28.50
		RLSs*LRAs*TSK	1365.63	25.34	20.71
		R Ls*s*LRASt*SK	1445.59	32.03	15.08
		RLs*s*LRAs*TSK	1445.59	32.32	17.87
		RRLs*s*LR	1047.49	27.61	30.61
153	P62995	RHs*Hs*Hs*PMSTR	1659.56	21.55	20.12
		RRs*Ps*PYYSR	1428.58	24.48	27.77
		Rs*Ps*PYYSR	1272.48	27.53	34.52
		s*Ps*PYYSR	1116.38	35.08	23.18
154	P67809	NYQQNYQNs*ESGEKNEGSESAPEGQAQQR	3337.36	27.72	69.21
		NYQQNYQNs*Es*GEKNEGSESAPEGQAQQR	3417.33	30.74	16.79
155	P78333	VMGQMGRSLLPs*R	1511.72	76.25	21.44
156	P80723	ETPAATEAPSs*TPK	1466.64	24.69	24.72
		ETPAATEAPSSt*PK	1466.64	24.75	27.67
157	P85037	EGs*PIPHDPEFGSK	1576.67	36.95	14.94
		s*APAs*PTHPGLMSPR	1665.69	37.54	73.48
		SGGLQt*PEcLs*REGSPIPHDPEFGSK	2942.24	47.11	10.24
		SGGLQt*PEcLs*REGs*PIPHDPEFGSK	3022.22	50.47	28.67
158	P98082	SSPNPFVGs*PPK	1293.59	42.36	34.76
159	P98175	GLVAAYs*GEs*Ds*EEEQERGGPEREEK	3078.17	39.83	20.98
		LASDDRPs*PPR	1290.59	25.21	34.77
160	Q00613	VKEEPPs*PPQs*PR	1607.69	28.60	14.78
161	Q00839	AKs*PQPPVEEEDEHFDDTVVcLDTYNcDLHFK	3914.65	55.78	59.37
162	Q01082	RPPs*PEPSTK	1175.55	18.88	40.85
		TSSKEs*s*PIPs*PTSDRK	2043.81	27.07	53.68
163	Q01105	RQs*PLPPQK	1130.57	20.53	20.49
164	Q01130	s*Rs*PPPVSK	1114.47	20.07	26.53
		s*Rs*Rs*PPPVSK	1437.57	20.46	14.96

165	Q01831	SEAAAPHTDAGGGLs*s*DEEEGTSSQAEAAR	3048.17	35.99	61.62
166	Q02880	KAs*Gs*ENEGDYNPGRK	1868.72	21.37	15.05
		KTSFDQDs*DVDIFPSDFPTEPPSLPR	3017.35	64.82	60.37
		KVVEAVNs*Ds*DSEFGIPK	2080.89	49.91	18.54
		VVEAVNs*DSDs*EFGIPK	1952.80	58.77	27.21
		VVEAVNs*D*DSEFGIPK	1952.79	58.74	32.85
167	Q02952	RPs*Es*DKEDELDKVK	1934.81	28.69	32.97
168	Q04637	s*FSKEVEER	1190.51	28.28	41.04
		SFs*KEVEER	1190.51	31.52	35.96
169	Q04695	QFTs*s*SSIKGSSGLGGGSSR	2046.85	36.13	20.19
		QFTSSs*SIKGSSGLGGGSSR	1966.89	31.65	28.80
170	Q04721	GGSs*DLs*DEDEDAEDSSANIITDLVYQGASLQAQTDR	4032.65	85.15	37.09
171	Q04726	ESSANNSVs*PSESLR	1643.69	31.71	30.37
172	Q05519	KLs*Rs*Ps*PR	1267.49	19.12	20.31
		KPIETGs*PK	1036.51	18.42	34.01
173	Q06210	VDs*TTcLFPVEEK	1604.69	53.49	46.85
174	Q07343	SDSDYDLs*PK	1206.46	35.96	49.76
175	Q07666	SGs*MDPSGAHPSVR	1464.59	26.25	67.11
		s*GSmDPSGAHPSVR	1480.58	21.72	42.28
176	Q07955	VKVDGPRs*Ps*YGR	1577.68	26.66	20.79
177	Q08945	EGMNPSYDEYADs*DEDQHDAYLER	2929.08	46.56	96.36
		EGmNPSYDEYADs*DEDQHDAYLER	2945.07	43.16	12.63
		SKEFVs*s*DEs*s*SGENKSK	2251.75	30.16	23.66
178	Q08J23	AGEPNs*PDAEEANs*PDVTAGcDPAGVHPPR	3174.25	42.46	102.82
		AGEPNs*PDAEEANSPDVTAGcDPAGVHPPR	3094.29	40.01	113.59
179	Q09161	Kt*SDANETEDHLESLIcK	2169.94	46.29	20.47
180	Q09666	As*LGSLEGEAEAEASSPK	1812.78	56.87	69.19
		ASLGSLEGEAEAEAs*s*PK	1892.76	62.00	18.15
		DIDISs*PEFK	1230.53	50.26	14.43
		FGTFGGLGs*K	1050.47	48.29	55.00
		FKAEAPLPs*PK	1264.63	34.54	31.61
		GGVTGs*PEASISGSK	1413.62	32.08	71.25
		GKGGVt*GSPEASISGSK	1598.74	26.61	40.49
		GKGGVTGs*PEASISGSK	1598.74	27.04	39.83
		HRs*Ns*FSDER	1394.49	21.57	19.87
		Is*APNVDFNLEGPK	1580.73	56.06	26.90
		ISMQDVDLSLGs*PK	1569.72	57.29	65.52
		LKs*EDGVEGDLGETQSR	1899.83	34.20	99.55
		LPs*GSGAAs*PTGSAVDIR	1802.77	46.54	75.67
		LPs*GSGAASPTGSAVDIR	1722.81	40.93	80.23
		SKGHy*EVTGs*DDETGKLQGSGVSLASK	2897.26	35.96	10.18
		TVIRLPs*GSGAAs*PTGSAVDIR	2272.07	51.61	69.97
		TVIRLPs*Gs*GAASPTGSAVDIR	2272.07	50.92	28.44
		TVIRLPs*GSGAASPTGSAVDIR	2192.11	47.55	14.22

		TVIRLPSGs*GAAs*PTGSAVDIR	2272.07	51.72	57.43
		VDVKs*PK	852.42	18.56	40.86
181	Q0ZGT2	EMLAs*DDEEDVSSKVEK	1990.82	38.30	43.20
182	Q12888	GGPGKLs*PR	948.47	21.06	46.73
		SKLPDGPt*Gs*SEEEEEFLEIPPFNK	2936.26	69.67	17.33
		STPFIVPSs*PTEQEGR	1811.82	47.77	31.48
183	Q13185	KSLs*DSESDDSK	1377.54	19.21	26.61
		KSLs*DSESDDs*KSK	1672.63	18.77	14.69
		RKs*Ls*DSESDDSK	1613.61	18.96	61.91
		RKs*LSDs*ESDDSK	1613.61	19.09	53.84
		SLs*DSESDDSK	1249.44	21.75	78.89
		SLs*DSESDDSKSK	1464.57	19.24	63.12
184	Q13242	Gs*PHYFs*PFRPY	1614.62	62.73	36.09
185	Q13247	ARs*Vs*PPPKR	1254.57	18.78	41.08
		SNs*PLPVPPSK	1202.58	33.35	40.71
		s*Vs*PPPKR	1027.44	19.52	43.30
186	Q13263	LASPSGSTs*s*GLEVVAPEGt*SAPGGGPGTLDDSATIcR	3798.59	73.13	33.27
		LASPSGs*TSSGLEVVAPEGTSAPGGGPGTLDDSATIcR	3638.66	56.15	23.48
		LASPSGs*t*s*SGLEVVAPEGTSAPGGGPGTLDDSATIcR	3798.57	72.73	22.87
		SRs*GEGEVSGLMR	1444.63	35.25	23.05
		s*TAPSAAASASASASAAASSPAGGGAEALELLEHcGVcR	3522.57	59.15	39.37
187	Q13283	SSs*PAPADIAQTVQEDLR	1964.90	61.51	147.05
		YQDEVFGGFVTEPQEEs*EEEVEEPEER	3296.33	63.64	76.24
188	Q13286	RFs*Ds*EGEETVPEPR	1894.72	38.58	24.44
189	Q13428	AALAPAKEs*PR	1190.59	21.74	68.26
		AASAPAKEs*PR	1164.54	18.05	63.41
		KLs*GDQPAAR	1122.53	19.15	64.15
		LGAGEGGEAs*VSPEKTSTTSK	2072.94	26.74	61.43
		TSQVGAASAPAKEs*PR	1636.77	21.15	108.58
190	Q13435	GFEEEHKDs*DDDs*s*DDEQEKKPEAPK	3231.16	26.17	58.55
		Ss*LGQs*ASETEEDTVSVSKK	2228.92	36.34	42.98
		SSLGQs*As*ETEEDTVSVSKK	2228.93	36.72	82.81
191	Q13442	Ks*LDs*DESEDEEDDYQQKR	2475.90	30.47	51.26
		SLDs*DEs*EDEEDDYQQK	2191.71	40.53	68.55
		s*LDSDEs*EDEEDDYQQK	2191.71	40.30	74.93
		SLDs*DEs*EDEEDDYQQKR	2347.81	34.40	124.06
192	Q13501	LTPVs*PESSSTEEK	1570.69	30.59	47.80
		SRLt*PVs*PESSSTEEK	1893.79	30.26	22.41
193	Q13523	AKs*Rs*LER	1106.48	17.88	18.99
		KKs*PIINESR	1251.65	22.72	28.21
		LcDFGSASHVADNDITPy*LVSR	2517.11	53.66	29.94
		s*Ls*PKPR	944.40	21.48	33.11
		s*Rs*PLLNDRR	1373.61	25.60	14.12
		s*Rs*PVDLR	1089.45	29.35	21.19

194	Q13541	RVVLGDGVQLPPGDy*STTPGGTLFSTt*PGGTR	3363.57	62.30	35.36
195	Q13547	IAcEEEFs*Ds*EEEGEGGRK	2317.81	36.09	38.27
		MLPHAPGVQMQAIPEDAIPEEs*GDEDEDDPDKR	3711.58	51.24	32.04
196	Q13595	RRs*Ps*PYYSR	1428.58	25.27	30.34
		s*Rs*Hs*PMSNR	1398.44	19.79	26.09
		Rs*Ps*PYYSR	1272.48	27.36	39.63
197	Q13596	LPPPFPGLEPESEGAAGGs*EPEAGDs*DTEGEDIFTGAAVVSK	4273.82	82.62	48.00
198	Q13610	EKLQEEGGGs*DEEETGSPSEDGMQSAR	2919.14	32.36	37.46
		LQEEGGGs*DEEETGSPSEDGMQSAR	2662.01	34.96	31.81
199	Q13765	VQGEAVSNIQENTQTPTVQEEs*EEEEVDETGVEVK	3940.73	50.55	72.37
200	Q13895	MPQDGs*DDEDEEWPTLEK	2200.82	55.35	32.05
201	Q14103	IDASKNEEDEGHSNSs*PR	2051.83	19.49	49.65
		NEEDEGHSNs*SPR	1537.55	18.02	21.15
202	Q14137	IGDEYAEDs*s*DEEDIR	2002.69	47.98	99.88
203	Q14155	Rs*SLSR	785.37	17.68	22.12
		RSSLs*R	785.37	18.06	20.02
204	Q14157	RYPs*SISSs*PQKDLTQAK	2152.96	36.55	34.56
		RYPSs*Is*SSPQKDLTQAK	2152.97	37.52	48.68
		STs*APQMSPGSSDNQSSSPQPAQQK	2612.09	29.05	18.66
205	Q14160	LPLLPPEs*PGPLR	1465.78	56.96	42.08
		QSPAs*PPPLGGGAPVR	1567.76	39.01	31.60
206	Q14166	SSPGQt*PEEGAQALAEFAALHGPALR	2685.27	65.73	51.05
207	Q14204	TDs*TSDGRPAWMR	1559.63	39.74	21.43
208	Q14247	AKt*QTPPVs*PAPQPTEER	2093.93	28.93	18.09
		GPVSGTEPEPVy*SMEAADy*R	2314.90	54.48	16.71
		GPVSGTEPEPVy*SMEAADYR	2234.91	51.18	30.89
		GPVSGTEPEPVYs*MEAADy*R	2314.89	54.29	24.31
		LPSSPVy*EDAASFK	1590.72	47.63	20.65
		TQt*PPVs*PAPQPTEER	1894.80	34.38	56.79
		TQt*PPVs*PAPQPt*EERLPSSPVYEDAASFK	3466.48	60.35	27.87
209	Q14498	DKs*PVREPIDNLTPEER	2074.98	37.39	58.38
		YRs*PYSGPK	1134.50	24.56	22.40
210	Q14669	AQTAPt*KTSPR	1237.59	18.23	23.69
		AQTAPTKt*SPR	1237.60	18.28	31.46
211	Q14676	SQt*TTERDSDt*DVEEEELPVENR	2839.12	43.05	55.02
		SQTTTERDs*Dt*DVEEEELPVENR	2839.13	42.82	45.12
212	Q14694	NHSVNEEEQEEQGEGs*EDEWEQVGPR	3107.22	42.04	66.76
213	Q14978	GGSISVQVNSIKFDs*E	1746.79	54.32	41.76
		IKLQt*PNt*FPK	1446.68	41.92	20.50
		LQt*PNt*FPK	1205.50	41.79	47.79
214	Q14980	TQPDGTSVPGEPAs*PISQR	2003.91	37.65	27.18
215	Q15019	IYHLPDAEs*DEDEDFKEQTR	2517.04	42.63	84.65
216	Q15021	YQPLAs*TAs*DNDFVTPEPR	2267.92	59.12	35.86
		YQPLAs*t*ASDNDFVTPEPR	2267.92	58.86	31.92

217	Q15036	LSs*KLSAVs*LR	1320.63	41.85	47.12
218	Q15054	VALs*DDETKETENMR	1817.77	34.01	47.12
219	Q15061	LQAKEs*PQR	1136.54	18.42	34.18
		LQAKEs*PQRK	1264.64	17.52	18.71
220	Q15149	SDEGQLs*PATR	1240.52	27.02	29.49
		SSs*VGSSSSYPISPAVSR	1834.82	41.47	104.97
		SSs*VGs*SSSYPISPAVSR	1914.79	49.67	85.22
		s*SSVGSSSSYPISPAVs*R	1914.79	45.95	66.44
		TQLAs*WSDPTEETGPVAGILDTETLEK	2968.37	71.56	42.23
221	Q15185	DWEDDs*DEDMSNFDR	1955.63	56.92	104.29
		LNWLSVDFNNWKDWEDDs*DEDMSNFDR	3472.36	78.45	100.46
222	Q15287	SSTRAPs*PTK	1111.51	18.02	26.51
223	Q15365	QIcLVMLETLSQs*PQGR	2039.96	67.32	65.24
		QIcLVMLETLs*QSPQGR	2039.96	67.41	43.67
		VMt*IPYQPMPASSPVIcAGGQDR	2555.15	57.33	28.09
		VMTIPYQPMPAs*SPVIcAGGQDR	2555.15	57.28	36.17
224	Q15424	SVVs*FDKVKEPR	1470.74	36.04	33.46
		s*VVs*FDKVKEPR	1550.70	38.29	74.94
225	Q15435	RVEs*EEs*GDEEGKK	1738.65	18.63	36.69
226	Q15477	As*SLEDLVLK	1154.57	55.29	27.88
		ASs*LEDLVLK	1154.57	55.30	49.42
227	Q15637	TGDLGIPPNPEDRs*Ps*PEPIYNSEGK	2926.25	50.41	28.65
		TGDLGIPPNPEDRs*Ps*PEPIYNSEGKR	3082.36	45.29	26.43
228	Q15942	EKVs*SIDLEIDSLSSLLDDMTK	2518.19	82.52	33.11
		EKVs*SIDLEIDSLSSLLDDMTKNDPFK	3119.48	82.14	54.97
		s*PGAPGPLTLK	1117.57	42.32	40.76
229	Q16204	ILQEKLDQPVs*APPs*PR	2034.97	41.26	40.04
		LDQPVs*APPs*PR	1423.60	36.50	55.53
230	Q16513	ASs*LGEIDESSELR	1572.68	45.72	58.36
231	Q16555	TVTPASSAKtsPAK	1505.66	20.82	33.46
		TVt*PASSAKTs*PAK	1505.66	20.97	36.55
232	Q16637	GtGQSDDs*DIWDDTALIK	2096.82	74.73	46.00
		GTGQs*DDs*DIWDDTALIK	2096.81	74.28	11.42
		RGTGQs*DDs*DIWDDTALIK	2252.91	62.71	70.97
233	Q16643	LSs*PVLHR	988.50	27.20	58.07
234	Q1KMD3	EEDEPEERSGDEt*PGSEVPGDK	2467.96	31.00	12.84
		EEDEPEERs*GDETPGSEVPGDK	2467.95	30.76	29.35
		s*GDETPGSEVPGDK	1454.56	29.48	32.39
235	Q53EL6	DSGRGDs*VSDSGSDALR	1760.71	28.22	36.16
		SGLTVPTs*PK	1066.52	34.89	18.30
236	Q58FF8	IEDVGs*DEEDDSGKDK	1574.57	29.29	37.71
		IEDVGs*DEEDDSGKDKK	1817.70	24.93	108.78
		IEDVGs*DEEDDSGK	1945.79	22.10	85.99
237	Q5H9R7	IQQFDDGGs*DEEDIWEEK	2219.87	57.27	71.53

238	Q5JTH9	GDs*IEEILADSEDEEDNEEEER	2631.99	59.68	26.32
		GDSIEEILADs*EDEEDNEEEER	2631.99	59.44	27.88
239	Q5T200	LRs*Ps*NDSAHR	1399.55	18.32	29.08
		NTEEs*SSPVRK	1313.57	18.16	16.20
		s*As*PYPSHSLSs*PQR	1840.67	38.88	32.56
		s*Ls*PSHLTEDR	1401.54	37.95	22.64
240	Q5T5C0	SSs*VTs*IDKESR	1455.57	28.09	38.17
		SSSVt*s*IDKESR	1455.58	28.09	60.36
241	Q5VT52	DVEDMELs*DVEDDGSK	1862.69	54.61	35.62
242	Q5VTL8	RSLs*PR	795.39	18.31	28.00
243	Q5VTR2	ALVVPEPEPDSDs*NQER	1961.85	43.04	31.82
244	Q641Q2	ASALLFs*s*DEEDQWNIPASQTHLASDSR	3235.36	67.05	41.82
245	Q69YN4	SFLSEPSs*PGR	1243.54	41.24	33.64
246	Q6KC79	AITSLLGGGs*PK	1180.60	48.49	67.78
		KSSPs*KENEs*s*Ds*EEEVSRPR	2683.95	25.19	55.98
		KSs*Ps*KENEs*s*DSEEEVSRPR	2683.95	24.67	21.14
247	Q6PD62	KGGEFDEFVNDDt*DDDLPISK	2436.00	55.41	34.42
		KGs*Gs*EQEGEDEEGGER	1939.66	20.93	37.50
248	Q6PJG2	TNSAEVt*PPVLs*VMGEAt*PVSIEPR	2821.22	84.26	29.59
249	Q6PKG0	ETESAPGs*PR	1110.45	20.46	48.04
		GLs*ASLPDLDSENWIEVK	2052.96	69.51	18.48
		KNTFTAWs*DEEs*DYEIDDRDVNK	2937.15	51.78	55.64
		NTFt*AWSDEEs*DYEIDDRDVNK	2809.06	57.87	30.69
		NTFt*AWs*DEESDYEIDDRDVNK	2809.06	58.17	12.68
		QHYQKEt*ESAPGs*PR	1874.75	21.76	61.17
		QHYQKETEs*APGs*PR	1874.75	22.26	74.57
		s*LPTTVPEs*PNYR	1620.67	48.59	49.09
		SLPTTVPEs*PNYR	1540.70	41.39	47.39
250	Q76FK4	LQDs*s*s*EEEDVTEETDHR	2345.78	43.10	31.74
251	Q7L014	AALGLQDs*DDEDAAVDIDEQIESMFNSK	3106.31	82.77	74.83
252	Q7L2J0	TLNAETPKs*s*PLPAK	1713.79	31.54	24.94
		TLNAEt*PKs*SPLPAK	1713.79	31.67	25.45
253	Q7L4I2	EQSEVSVs*PR	1197.52	27.47	52.48
254	Q7Z2W4	Sct*Ps*PDQISHR	1544.56	29.91	44.40
255	Q7Z309	RIDFTPVs*PAPs*PTR	1800.80	46.66	25.79
256	Q7Z417	DYEIESQNPLAs*PTNTLLGSAK	2428.12	64.72	16.36
		NDs*WGSFDLR	1276.50	59.02	33.59
257	Q7Z4V5	ARGDs*EALDEES	1358.51	29.34	38.22
258	Q7Z5K2	RPEs*PSEIs*PIKGSVR	1898.88	33.22	36.65
		RPEs*Ps*EISPIKGSVR	1898.87	33.43	21.39
		VEEESt*GDPFGFDSDDESLPVSSK	2653.07	60.97	12.96
259	Q7Z5L9	KPs*PEPEGEVGPPK	1527.71	27.37	44.15
		LEEPPELNRQs*PNPR	1855.87	34.44	30.60
		RKPs*PEPEGEVGPPK	1683.81	24.94	24.84

		RNs*Ns*PPs*PSSMNQR	1898.66	32.47	14.85
260	Q7Z6Z7	DGGs*GNs*TIIVSR	1422.57	43.21	37.45
		GSGTAs*DDEFENLR	1577.61	44.29	103.40
261	Q86UU0	EAPGs*PPLs*PR	1267.51	36.28	40.63
262	Q86VM9	LGs*PKPER	963.47	19.40	51.75
		LGVSVSPs*R	981.48	32.81	44.68
		LGVSVs*PSR	981.48	32.77	46.83
		LGVs*Vs*PSR	1061.44	38.87	47.90
263	Q86VR2	AMDNHs*Ds*EEELAAFcPQLDDSTVAR	3068.17	61.98	44.12
264	Q86XP3	QQFHs*KPVDs*DSDDDPLEAFMAEVEDQAAR	3537.42	78.05	70.70
		QQFHs*KPVDSDs*DDDPLEAFMAEVEDQAAR	3537.43	78.42	60.77
		YMAENPt*AGVVQEEEEDNLEYDSDGNPIAPTKK	3733.60	53.54	10.97
265	Q86YP4	RPPs*PDVIVLs*DNEQPSs*PR	2430.00	52.60	30.86
		RPPs*PDVIVLs*DNEQPs*SPR	2430.01	52.66	28.56
266	Q8IU81	KAs*PEPEGEAAGK	1350.59	18.82	46.64
267	Q8IVT2	ALs*SDSILSPAPDAR	1579.73	48.89	24.76
268	Q8IY81	ALDISLs*s*GEEDEGDEEDSTAGTTK	2716.04	57.26	21.51
269	Q8IYB3	AAs*Ps*PQSVR	1159.45	25.34	40.12
		APQTSSs*PPPVR	1303.60	23.64	69.88
		APQTSs*s*PPPVR	1383.57	27.58	33.88
		APQTs*s*SPPPVR	1383.56	27.58	39.14
		EKt*PELPEPSVK	1433.69	34.86	32.23
		Gt*EKRESPs*PAPKPR	1796.81	18.19	29.36
		HRPs*PPAtPPPK	1441.64	22.18	44.82
		KAAs*Ps*PQSVR	1287.55	20.96	80.68
		KAAs*Ps*PQs*VR	1367.51	23.38	54.24
		KAAs*PSPQSVR	1207.58	19.30	64.24
		KEt*Es*EAEDNLDDLEK	2024.76	46.09	100.63
		KETEs*EAEDNLDDLEK	1944.80	40.97	131.52
		KSRVs*Vs*PGR	1232.55	20.81	33.75
		KVELs*Es*EEDKGGK	1694.69	24.67	93.05
		RAs*Ps*PPPK	1096.46	18.85	18.64
		RAs*Ps*PPPKR	1252.56	18.04	53.87
		Res*Ps*PAPKPR	1381.60	18.66	53.21
		Res*PSPAPKPR	1301.63	18.23	45.31
		RLs*Ps*As*PPR	1307.49	31.05	36.66
		RLs*PSAs*PPR	1227.53	28.31	41.90
		RLs*Ps*ASPPR	1227.53	27.35	31.36
		RQs*PSPSt*RPIR	1541.70	22.82	31.57
		RRs*Ps*LSSK	1177.51	19.17	19.56
		RRs*PSLs*SK	1177.51	19.73	20.53
		RRs*Ps*PAPPPR	1377.62	19.23	46.73
		RRs*Ps*PPPTR	1310.58	19.30	44.03
		RRt*Ps*PPPR	1223.54	19.13	35.57

		RRt*Pt*PPPR	1237.56	19.42	31.98
		RVs*Hs*PPPK	1164.50	17.92	43.39
		RVs*Hs*PPPKQR	1448.66	17.79	27.70
		RVs*Rt*PEPK	1229.54	18.43	17.32
		RVs*s*s*RSVs*GSPEPAAK	2021.75	24.18	19.24
		RYs*PPIQR	1096.53	27.86	24.77
		RYs*Ps*PPPK	1188.48	23.85	39.10
		s*Ps*PAPPPR	1065.42	25.35	40.04
		s*RVSVs*PGR	1104.46	22.01	31.71
		SRVs*Vs*PGR	1104.46	21.80	41.33
		SRVs*Vs*PGRTSGK	1477.66	21.64	24.96
		TAs*PPPPPK	971.46	22.04	34.20
		t*As*PPPPPK	1051.43	25.30	43.04
		t*As*PPPPPKR	1207.53	21.26	54.92
		t*ASPPPPPKR	1127.56	19.81	43.43
		TAs*PPPPPKR	1127.56	20.45	37.57
		TRHs*PTPQQSNR	1488.67	17.90	32.10
270	Q8IZ21	SSs*PVQVEEEPVR	1522.67	34.52	39.20
271	Q8IZP0	LGSQHs*PGR	1018.45	18.03	30.83
272	Q8N163	s*VAs*NQs*EMEFSSLQDMPK	2354.84	79.74	66.09
273	Q8N556	SGTSSPQs*PVFR	1329.59	33.62	35.51
274	Q8N7R7	s*FSADNFIGIQR	1434.64	57.97	31.89
275	Q8N9T8	y*VDEENSDGETSNHR	1831.68	22.22	22.43
276	Q8NAV1	VSALEEDMDDVEs*s*EEEEEEDEKLER	3230.20	54.34	62.63
277	Q8NBN3	WVEENVPSSVTDVALPALLDs*DEER	2850.30	71.99	45.19
278	Q8NE71	KAEQGs*EEEGEGEEEEEEGGESK	2561.95	24.40	58.01
		KLSVPt*s*DEEDEVPAPKPR	2254.00	39.23	41.04
		KLs*VPt*s*DEEDEVPAPKPR	2333.97	42.36	50.25
		KLs*VPt*SDEEDEVPAPKPR	2254.00	39.34	34.37
		KLSVPt*SDEEDEVPAPKPR	2174.04	36.14	26.17
		Ls*VPTs*DEEDEVPAPKPR	2125.92	43.45	24.71
		LSVPt*s*DEEDEVPAPKPR	2125.91	43.71	84.09
		LSVPTs*DEEDEVPAPKPR	2045.94	39.58	39.03
279	Q8NEY8	DNTFFREs*PVGR	1504.66	42.27	24.57
		DTs*PSSGSAVSSSK	1376.56	20.73	32.86
280	Q8NI08	VLs*STs*EEDEPGVVK	1735.71	46.76	23.81
281	Q8TAQ2	KRs*Ps*PSPTPEAK	1541.68	19.49	28.87
282	Q8TCJ2	ENPPVEDs*s*DEDDKR	1891.66	25.06	68.13
		ENPPVEDs*SDEDDKR	1811.70	22.93	45.73
		ENPPVEDs*s*DEDDKRNQGNLYDK	2824.09	31.99	24.21
283	Q8TDD1	IDDRDs*DEEGASDR	1659.62	21.24	40.28
284	Q8TEA8	SAs*SGAEGDVSSEREP	1644.63	29.98	25.29
285	Q8WVC0	KYVIs*DEEEEDDD	1665.61	40.06	36.94
286	Q8WW12	TLs*VAAAFNEDEDSEPEEMPPEAK	2686.11	57.64	26.61

		TLSVAAAFNEDEDs*EPEEMPPEAK	2686.11	57.23	38.62
287	Q8WWI1	SHs*PSASQSGSQLR	1508.64	21.40	53.15
		VTt*EIQLPSQSPVEEQSPASLSSLR	2763.35	57.45	32.71
288	Q8WWM7	LQPSs*SPENSLDPFPPR	1947.88	53.60	60.70
		STSTPTs*PGPR	1167.50	21.31	43.54
289	Q8WWQ0	KVLs*Ds*EDEEKDADVPGTSTR	2438.00	34.60	38.88
		VLs*Ds*EDEEKDADVPGTSTR	2309.89	40.11	50.35
290	Q8WWY3	Ss*Gt*ASSVAFTPLQGLEIVNPQAAEKK	2890.36	66.34	23.37
291	Q8WX93	IAs*DEEIQGTK	1270.55	30.26	67.58
		IAs*DEEIQGTKDAVIQDLER	2310.09	56.96	64.92
		s*Rs*RDs*GDENEPIQER	2114.75	27.92	45.70
292	Q92466	SRs*PLELEPEAK	1435.68	34.04	36.24
293	Q92504	EKQs*s*EEEEKETR	1768.66	18.79	73.88
294	Q92522	AGGSAALs*PSK	1025.47	21.73	35.84
295	Q92538	ADAPDAGAQs*DSELPSYHQNDVSLDR	2838.19	43.98	33.13
296	Q92576	MAPPVDDLs*PK	1249.55	40.53	39.88
297	Q92597	SRt*As*GSSVTSLDGTR	1741.71	33.27	22.05
		t*ASGSSVTSLDGTR	1418.62	33.69	45.93
		TAs*GSSVTSLDGTR	1418.62	33.75	61.58
298	Q92598	IEs*PKLER	1051.52	25.89	76.48
299	Q92685	SGs*AAQAEGLcK	1258.51	27.07	40.45
300	Q92688	KREt*DDEGEDD	1388.48	18.09	70.61
301	Q92769	IAcDEEFs*Ds*EDEGEGGRR	2317.81	35.66	28.39
		MLPHAPGVQMQAIPEDAVHEDs*GDEDGEDPDKR	3665.54	44.64	24.90
302	Q92882	t*LSNAEDYLDDEDs*D	1861.59	79.00	21.33
303	Q92922	KHs*Ps*PPPPTPTESR	1774.76	22.49	44.91
		KHs*Ps*PPPPt*PTESR	1854.72	22.71	24.05
304	Q92945	VQIs*PDSGGLPER	1434.66	39.77	25.16
305	Q969G5	APEPLGPADQSELGPEQLEAEVGEs*s*DEEPVESR	3737.55	67.80	84.86
306	Q96B23	RDs*s*ESQLASTESDKPTTGR	2311.95	28.55	24.62
307	Q96C57	EKEEs*PQPR	1179.50	17.83	36.26
308	Q96D46	DSAIPVESDt*DDEGAPR	1853.75	39.72	36.24
		DSAIPVEs*DtDDEGAPR	1933.71	45.95	85.36
309	Q96E09	RIDFIPVs*PAPs*PTR	1812.85	55.79	50.22
310	Q96G23	LVEDERs*DREEt*Es*s*EGEEAAAGGGAK	3128.11	34.53	51.74
311	Q96GM8	AADs*DDGAVSAPAASDGGVSK	1927.79	31.82	29.68
312	Q96I25	RPDPDs*DEDEDYER	1817.66	27.49	24.31
		RPDPDs*DEDEDYERER	2102.79	27.02	31.18
313	Q96JC9	t*s*PLKDNPSPEPQLDDIKR	2310.04	39.11	39.59
314	Q96JM3	AVPPVs*PELR	1144.57	38.25	49.64
		GQEs*s*SDQEQVDVESIDFSKENK	2745.08	50.37	14.08
		KPGPPLs*PEIR	1270.66	33.95	47.96
		KPGPPLs*PEIRs*PAGs*PELR	2325.04	45.04	30.80
315	Q96K21	LPDs*DDDEDEETAIQR	1927.76	39.50	40.79

316	Q96MU7	AKs*Pt*PDGSER	1304.49	18.57	37.28
		RAKs*Pt*PDGSER	1460.59	17.82	26.74
317	Q96N20	RSs*LLR	811.42	27.58	29.78
318	Q96PK6	QPt*PPFFGR	1126.51	50.38	41.44
		TRLs*PPR	906.46	25.43	27.08
319	Q96QR8	DSLGDFIEHYAQLGPs*SPEQLAAGAEEGGGPR	3335.48	73.80	35.10
		Ds*LGDFIEHYAQLGPSSPEQLAAGAEEGGGPR	3335.48	73.36	28.63
320	Q96S82	DMPGGFLFEGLs*DDEDDFHPNTR	2691.07	70.98	28.02
321	Q96ST2	AAVLs*Ds*EDEEKASAK	1809.71	30.73	33.35
		AAVLs*Ds*EDEEKASAKK	1937.81	26.41	23.03
		EAEDs*Ds*DDNIKR	1653.57	22.83	97.79
		HQAs*Ds*ENEEPPKPR	1880.72	20.92	17.42
		Is*Ds*Es*EDPPRHQAs*DSENEELPKPR	3269.21	36.53	20.86
		KAAVLs*Ds*EDEEKASAK	1937.81	26.87	10.63
		TIAs*Ds*EEEAGKELSDK	1968.78	37.63	67.45
		t*IAs*DSEEEAGKELSDKK	2096.86	32.36	15.56
		TIAs*Ds*EEEAGKELSDKK	2096.87	32.29	15.92
322	Q96T23	GRs*t*DEYs*EADEEEEEEEGKPSR	2897.98	36.03	27.70
323	Q96T37	DRt*PPLLYR	1210.60	40.14	29.08
		HcAPs*PDRs*PELSSSR	1942.75	26.34	13.23
		SLs*PGGAALGYR	1228.57	43.18	70.66
324	Q96TA1	AAPEASs*PPAs*PLQHLLPGK	2127.99	55.53	32.13
		QVVs*VVQDEEVGLPFEASPESPPPAs*PDGVTEIR	3721.70	75.30	43.83
325	Q99426	LGEy*EDVSR	1147.47	30.30	46.05
326	Q99590	KRPQs*Ps*PR	1212.53	17.85	24.50
327	Q99613	QPLLLs*EDEEDTKR	1752.81	39.13	98.67
328	Q99733	EFIt*GDVEPTDAESEWHSENEEEEKLAGDMK	3631.49	56.19	19.93
329	Q99961	IAASSs*FR	918.41	29.02	47.37
330	Q9BPX3	TLHcEGTEINs*DDEQESKEVEETATAK	3130.31	38.50	42.03
331	Q9BQA1	KEt*PPPLVPPAAR	1452.76	35.86	37.60
332	Q9BQE3	t*IGGGDDSFNTFFSETGAGK	2087.85	63.19	82.79
		TIGGGDDs*FNTFFSETGAGK	2087.86	63.72	62.21
333	Q9BQG0	ALGGEDs*ENEEELGDEAMMALDQSLASLFAEQK	3607.53	84.60	38.46
334	Q9BRJ6	ELDEEGs*DPPLPGR	1590.67	40.98	36.42
335	Q9BTC0	QEAIPDLEDs*PPVs*DSEEQQESAR	2816.12	55.84	80.72
336	Q9BTU6	VAAAAGSGPs*PPGs*PGHDRER	2132.90	25.06	30.67
		VAAAAGs*GPSPPGs*PGHDRER	2132.89	24.74	31.02
337	Q9BUA3	AEs*PSPAPPPGLR	1355.64	35.27	26.18
338	Q9BUQ8	DRDAs*PSKEER	1369.57	17.90	26.87
339	Q9BUR4	EGDPVSLSTPLETEFGs*Ps*ELSPR	2691.13	74.71	27.27
		VFPEPt*ESGDEGEELGLPLLSTR	2552.18	72.82	33.39
340	Q9BVV8	YGLLANt*EDPTEMASLDs*DEETVFESR	3179.26	80.63	86.47
341	Q9BW71	AVEEs*s*DEERQR	1594.58	20.50	40.81
		KQAREEs*EEs*EAEPVQR	2161.88	24.11	31.72

		RLs*Gs*s*EDEEDSGKGEPTAK	2318.84	24.90	26.58
		RPPt*Pcs*DPER	1471.54	23.60	23.81
		s*LKESEQEs*EEEILAQKK	2264.99	35.08	33.56
		SLKEs*EQEs*EEEILAQKK	2264.99	35.50	30.89
342	Q9BWH2	s*NQIPTEVR	1123.51	33.70	39.56
343	Q9BZZ5	ASEDTTSGs*PPKK	1384.60	18.24	61.05
344	Q9C0C2	ASRVPs*s*DEEVVEEPQSR	2160.89	37.15	54.52
		LDs*PPPs*PITEASEAAEAAEAGNLAVSSR	2997.32	77.63	64.56
		s*QEADVQDWEFR	1589.63	54.94	58.91
		TEAQDLcRAs*PEPPGPESSSR	2351.00	32.76	15.56
		VPs*s*DEEVVEEPQSR	1846.72	42.62	30.24
345	Q9GZY8	ERs*MSENAVR	1258.52	22.88	26.78
346	Q9H019	NAs*VPNLR	950.44	33.35	32.48
347	Q9H0D6	AEDs*Ds*EPEPEDNVR	1848.62	34.96	19.65
		KAEDs*Ds*EPEPEDNVR	1976.72	28.97	95.17
348	Q9H1B7	RNs*s*SPVs*PASVPGQR	1865.74	34.51	24.62
349	Q9H1E3	ATVt*Ps*PVKGK	1244.57	23.62	46.75
		ATVTPs*PVKGK	1164.60	21.42	35.22
		DDs*Hs*AEDSEDEKEDHK	2132.70	18.09	10.64
		DDSHs*AEDs*EDEKEDHK	2132.70	18.17	12.74
		DDs*Hs*AEDs*EDEKEDHKNVR	2581.87	19.34	10.89
		DDSHs*AEDs*EDEKEDHKNVR	2501.91	19.81	51.43
		EEDEEPEs*PPEKK	1622.65	21.68	20.17
		KDDs*Hs*AEDSEDEKEDHK	2260.80	17.70	12.02
		KDDs*Hs*AEDs*EDEKEDHK	2340.75	17.89	48.21
		KDDs*HSAEDs*EDEKEDHK	2260.79	17.83	14.15
		KVVDYSQFQEs*DDADEDYGR	2445.97	43.40	129.86
		KVVDYSQFQEs*DDADEDYGRDSGPPTK	3128.30	40.19	71.00
		LKATVt*Ps*PVKGK	1485.75	26.30	34.86
		NSQEDs*EDs*EDKDVK	1884.64	21.36	78.99
		NSQEDs*EDSEDKDVK	1804.68	19.41	57.17
		SGKNSQEDs*EDs*EDKDVK	2156.79	19.24	83.54
		TPSPKEEDEEPEs*PPEKK	2132.93	22.48	33.29
		VVDYSQFQEs*DDADEDYGR	2317.88	48.82	90.42
		VVDYSQFQEs*DDADEDYGRDSGPPTK	3000.20	43.83	65.03
		VVDYSQFQEs*DDADEDYGRDSGPPTKK	3128.32	39.26	27.75
350	Q9H307	GFs*DSGGGPPAK	1156.47	28.46	76.76
		RGFs*DSGGGPPAK	1312.57	24.89	32.88
351	Q9H3N1	KVEEEQEADEEDVs*EEEAESK	2517.99	31.45	95.30
352	Q9H4A3	DVDDGs*GSPHs*PHQLSSK	2009.76	24.27	42.79
		DVDDGs*Gs*PHSPHQLSSK	2009.76	24.94	27.93
		DVDDGs*Gs*PHs*PHQLSSK	2089.73	27.33	13.20
		s*GSGGGSAKEPQEER	1555.64	18.57	35.17
		SGs*GGGSAKEPQEER	1555.64	18.70	49.08

353	Q9H4L7	KLs*SSs*EPy*EEDEFNDDQSIKK	2815.06	45.71	25.77
		t*FNKDTVIIVSEPs*EDEESQGLPTMAR	3153.38	58.48	24.56
354	Q9H501	ALAEEAs*EEELPs*DVDLNDPYFAEEVK	3169.32	73.60	21.22
355	Q9H6F5	ALVEFESNPEEt*REPGSPPSVQR	2635.20	44.89	40.29
		ALVEFESNPEETREPGs*PPSVQR	2635.20	45.12	56.67
		LGGLRPEs*PESLTSVSR	1864.92	43.46	46.37
		LQQGAGLEs*PQGQPEPGAAs*PQR	2463.07	40.11	21.18
		LQQGAGLESPQGQPEPGAAs*PQR	2383.10	36.42	28.93
356	Q9H6H4	SFs*MQDLR	1063.43	47.84	33.81
357	Q9H6Z4	SAGGs*s*PEGGEDs*DREDGNYcPPVKR	2963.06	33.57	40.18
358	Q9H788	TLs*SSAQEDIIR	1399.65	43.52	82.60
359	Q9H7N4	FDIYDPFHPt*DEAYSPPPAPEQK	2741.17	61.67	22.55
		FDIYDPFHPTDEAYs*PPPAPEQK	2741.17	62.72	30.49
		GTLDEEDEEADs*DTDDIDHR	2356.86	36.58	72.76
360	Q9NP74	AEEs*IEDIYANIPDLPK	1996.92	63.07	21.76
361	Q9NQ55	LQDIs*ELLATGAGLSEs*EAEPDGDHNITELPQAVAGR	3963.79	73.84	25.70
		VGGs*DEEASGIPSR	1440.60	32.15	105.94
362	Q9NQZ2	TSAAAcAVTDLs*DDs*DFDEKAK	2476.95	45.90	32.29
363	Q9NR30	KKEEPSQNDIs*PK	1579.74	22.46	62.05
		NEEPs*EEEIDAPKPK	1791.78	30.36	55.05
364	Q9NRY4	TSFSVGs*DDELGPIR	1659.73	55.00	38.40
365	Q9NTI5	AEs*PESSAIESTQSTPQK	1956.84	33.52	65.62
		GRPSKt*Ps*PSQPK	1526.68	18.49	16.12
366	Q9NTJ3	RREEGPPPPSPDGASs*DAEPEPPSGR	2751.21	30.94	33.89
		RREEGPPPPs*PDGASs*DAEPEPPSGR	2831.17	32.58	34.79
		RREEGPPPPs*PDGAs*SDAEPEPPSGR	2831.18	32.51	19.39
		t*ESPATAAETASEELDNR	1971.81	51.49	112.68
367	Q9NVD7	SPTPKs*PPSR	1133.54	20.04	33.96
368	Q9NVM6	QAQAQEs*EEEEESR	1729.66	21.74	37.49
369	Q9NWB6	ASs*PPDRIDIFGR	1510.70	48.99	33.82
370	Q9NWH9	DGQDAIAQs*PEKESK	1682.73	23.66	30.21
371	Q9NXG2	FTDKDQQPs*Gs*EGEDDDAEAALKK	2741.09	34.76	68.41
372	Q9NYF8	ETQs*PEQVKSEK	1469.65	19.05	37.36
		FNDs*EGDDTEETEDYR	2001.68	37.88	58.48
		GRAEGEWEDQEALDy*FSDKESGK	2726.13	49.01	20.54
		GRAEGEWEDQEALDYFs*DKESGK	2726.13	49.54	41.36
		IDIs*PSTLR	1081.53	45.67	67.66
		IDIs*PSTLRK	1209.62	36.94	26.65
		KAEGEPQEEs*PLKSK	1736.80	22.78	20.05
		KETQs*PEQVKSEK	1597.75	18.17	18.98
		LKDLFDYs*PPLHK	1652.81	48.94	54.93
		NTPSQHSHSIQHs*PER	1921.83	20.60	23.47
		NTPSQHs*HSIQHs*PER	2001.79	18.66	23.12
		Nt*PSQHSHSIQHs*PER	2001.80	20.09	50.22

		QKFNDs*EGDDTEETEDYR	2257.83	32.51	38.37
		RIDIs*PSTLR	1237.63	40.25	51.06
		STFREEs*PLR	1301.59	30.16	19.58
373	Q9NYV4	HLLTDLPLPPELPGGDLs*PPDs*PEPK	2891.36	73.41	26.39
		s*Ss*PFLSKR	1168.48	33.98	36.70
374	Q9NZ63	RGDs*Es*EEDEQDSEEVR	2155.73	27.71	23.80
		RRGDs*Es*EEDEQDSEEVR	2311.83	24.80	56.40
		VGDt*EKPEPERSPPNR	1887.86	21.76	22.59
		VGDTEKPEPERs*PPNR	1887.86	21.94	35.11
375	Q9NZI8	QGs*PVAAGAPAK	1133.53	21.76	71.81
376	Q9NZT2	KVEEEGs*PGDPDHEASTQGR	2204.91	22.25	23.89
377	Q9P035	RPLFLAPDFDRWLDEs*DAEMELR	2901.31	72.10	29.79
		WLDEs*DAEMELR	1573.62	59.53	60.97
378	Q9P2I0	EADIDs*s*DEs*DIEEDIDQPSAHK	2784.97	58.02	22.89
379	Q9UHB6	ETPHs*PGVEDAPIAK	1627.73	30.62	21.88
		SEVQQPVHPKPLs*PDSR	1980.95	28.36	26.28
380	Q9UIG0	LAEDEGDs*EPEAVGQSR	1868.75	32.89	35.20
381	Q9UJX2	RVs*PLNLSs*VTP	1429.65	57.67	20.85
382	Q9UK76	RNs*SEASSGDFLDLK	1705.74	45.45	64.48
383	Q9UKM9	GRLs*PVPVPR	1157.62	33.67	29.88
		TRDDGDEEGLLTHs*EEELEHs*QDTDADDGALQ	3687.42	49.55	39.77
		TRDDGDEEGLLt*Hs*EEELEHs*QDTDADDGALQ	3767.38	52.89	18.25
		TRDDGDEEGLLt*Hs*EEELEHSQDTDADDGALQ	3687.42	48.43	28.24
		TRDDGDEEGLLt*HSEEELEHSQDTDADDGALQ	3607.45	46.95	30.83
384	Q9UKV3	GVPAGNs*DTEGGQPGR	1578.65	24.66	79.24
		LQPERGs*PK	1091.52	18.79	27.99
		RLs*QPESAEK	1224.56	21.55	41.38
		SKs*Ps*PPRLTEDR	1629.70	29.49	20.23
		SSSISEEKGDs*DDEKPR	1945.80	21.04	71.73
		TAQVPs*PPR	1032.49	31.06	25.20
		TAQVPs*PPRGK	1217.60	25.16	17.46
385	Q9UKY7	KTPQGPPEIYs*DTQFPSLQSTAK	2600.23	48.10	35.90
		KTPQGPPEIy*SDTQFPSLQSTAK	2600.22	48.24	35.26
386	Q9ULW0	SSDQPLTVPVs*PK	1434.69	40.94	36.16
387	Q9UN86	YEDEVFGDs*EPELDEEs*EDEVEEEQEER	3550.26	65.53	35.69
388	Q9UNE7	LGAGGGs*PEKSPSAQELK	1792.85	29.68	31.33
389	Q9UNL2	KLs*EADNR	1012.45	18.60	30.99
390	Q9UNX4	Gs*SPGIQDTLEAEDGAFETDEAPEDR	2816.14	59.45	41.86
391	Q9UPN9	TFAPLPEFEQEEDDGEVt*EDs*DEDFIQPR	3544.40	80.12	68.36
392	Q9UPQ0	GSSDGRGs*DSESDLPHR	1838.73	23.61	19.55
		GSs*DGRGSDSESDLPHR	1838.73	23.71	22.04
		GSSDGRGs*Ds*ESDLPHR	1918.69	25.24	12.07
		QTPs*PDVVLR	1191.58	40.93	56.33
		s*FQGDDSDLLLK	1417.62	53.66	13.23

		SINHQIEs*PSER	1476.64	26.27	47.10
		SRQt*Ps*PDVVLR	1514.67	38.55	39.77
393	Q9UQ35	ALPQt*PRPR	1115.57	24.21	22.48
		AQt*PPGPSLSGSKs*PcPQEK	2212.93	32.47	43.98
		ARs*Rt*PPSAPSQSR	1657.72	20.52	31.22
		ELSNs*PLRENSFGs*PLEFR	2339.01	60.02	36.71
		ELs*NSPLRENSFGs*PLEFR	2339.01	60.60	44.75
		ELSNs*PLRENSFGSPLEFR	2259.05	55.55	20.55
		GEFSAs*PMLK	1146.49	46.47	47.58
		GQs*QTSPDHRSDt*s*s*PEVR	2390.81	26.62	16.14
		GQs*Qt*SPDHRSDTs*s*PEVR	2390.80	26.38	22.93
		GRs*Rt*PPTSR	1274.54	18.12	19.38
		HAs*s*s*PEs*PKPAPAPGSHR	2216.79	22.92	37.40
		HGGs*PQPLATTPLSQEPVNPPSEASPt*R	3012.35	47.91	40.84
		HGGs*PQPLAt*TPLSQEPVNPPSEASPt*R	3092.32	50.41	13.00
		HRRs*Ps*Vs*s*PEPAEK	1983.71	22.97	16.50
		MALPPQEDATAs*PPRQK	1916.88	33.87	20.11
		MScFSRPs*Ms*PTPLDR	2028.78	47.62	29.55
		NHs*Gs*Rt*PPVALNSSR	1919.75	31.15	32.68
		RGs*Rs*SPEPK	1260.51	17.34	13.75
		RPs*PQPSPR	1101.52	18.78	36.21
		Rs*Rs*Vs*PcSNVESR	1860.68	25.13	53.31
		RVPSPt*PAPK	1129.58	21.75	25.97
		RVPs*PTPAPK	1129.58	22.11	24.79
		SATRPs*Ps*PER	1344.53	20.71	20.04
		ScFEs*SPDPELK	1475.57	40.08	14.79
		ScFESs*PDPELK	1475.58	39.70	27.88
		SGMs*PEQSR	1058.40	21.76	34.81
		SGs*s*PEVKDKPR	1446.60	18.78	58.88
		s*Ls*GSs*PcPK	1259.38	32.36	50.99
		s*LSYs*PVER	1197.46	42.97	56.06
		s*Ls*Ys*PVER	1277.42	53.37	28.73
		s*Lt*Rs*PPAIR	1337.54	39.26	23.52
		s*Lt*RSPPAIR	1257.57	34.45	24.10
		s*RAs*PVSR	1019.41	18.81	30.26
		s*Rs*PLAIR	1059.47	32.35	26.35
		s*Rs*PSs*PELNNK	1555.56	27.02	24.40
		s*Rs*Ps*SPELNNK	1555.56	26.89	20.18
		s*Rs*RtPLISR	1412.59	28.59	16.84
		s*Rs*Rt*PPVTR	1396.55	21.15	21.82
		s*Rt*PLISR	1089.49	30.86	30.31
		s*Rt*PLLPR	1099.51	36.66	27.18
		s*Rt*PPAIR	1057.46	26.63	18.73
		s*Rt*PPSAPSQSR	1430.58	22.54	37.08

		SRt*s*PVSR	1049.42	18.98	31.72
		SRTs*PVSR	969.45	18.15	31.74
		SRTs*PVTR	983.47	18.43	34.20
		s*RTSPVTR	983.47	18.52	18.37
		s*RTs*PVTR	1063.43	19.28	27.95
		s*SGHSSs*ELSPDAVEK	1776.67	32.40	15.97
		s*SRSs*PELTR	1279.51	23.46	37.57
		Ss*RSs*PELTR	1279.51	23.17	34.82
		s*Vs*PcSNVESR	1381.48	31.57	45.90
		THTt*ALAGRSPs*PASGR	1826.79	23.30	52.91
		THTTALAGRs*Ps*PASGR	1826.79	23.51	37.45
		TKs*Rt*PPR	1102.48	17.55	16.66
		TPAAAAAmNLAs*PR	1437.66	33.72	54.74
		TPAAAAAMNLAs*PR	1421.66	41.62	103.59
		Ts*PPLLDR	978.47	37.36	36.56
		TVARt*PLGQR	1178.61	22.68	17.76
		Vs*GRTSPPLLDR	1377.69	32.53	14.12
		VSGRTs*PPLLDR	1377.69	32.92	25.48
394	Q9UQN3	ATIs*DEEIER	1242.52	35.45	24.60
395	Q9Y2D5	DALGDSLQVPVs*PSSTTSSR	2083.94	51.76	25.39
		QVLQSTQs*PR	1223.58	24.94	28.29
396	Q9Y2U8	VLLGFSSDEs*DVEASPR	1887.84	55.53	61.58
397	Q9Y2W1	ASAVSELs*PR	1096.50	32.10	69.09
		ERs*PALK	880.43	18.59	31.18
		ERs*PALKs*PLQSVVVR	1925.96	42.05	55.77
		GSFs*DTGLGDGK	1220.48	38.41	30.78
		IDIs*PSTFR	1115.51	50.08	61.04
		NKKs*PEIHR	1188.59	21.01	55.57
		RIDIs*PSTFR	1271.61	43.52	45.62
		TDs*EKPFRGs*QSPK	1723.70	22.86	18.93
		TDSEKPFRGs*Qs*PK	1723.70	23.13	17.35
		TDSEKPFRGs*Qs*PKR	1879.81	20.98	11.29
398	Q9Y2X3	HIKEEPLs*EEEPcTSTAIAs*PEK	2742.16	40.00	41.03
		HIKEEPLs*EEEPcTSTAIASPEK	2662.20	38.36	15.04
		HIKEEPLs*EEEPcTSTAIAs*PEKK	2870.26	36.17	44.92
399	Q9Y3T9	DLFDLNs*s*EEDDTEGFSER	2364.85	83.00	75.74
		EAARs*PDKPGGSPSASR	1749.79	19.27	18.54
		QFKDLFDLNs*s*EEDDTEGFSER	2768.06	70.68	70.15
400	Q9Y4F1	LGAPENSGIs*TLER	1523.71	41.01	31.42
401	Q9Y4H2	VAs*PTSGVKR	1081.54	20.22	23.09
402	Q9Y4P1	FFDs*EDEDFEILSL	1785.71	86.16	21.47
403	Q9Y580	SFs*SPENFQR	1278.52	41.70	54.15
404	Q9Y5J1	Kt*s*SDDEs*EEDEDDLLQR	2350.79	51.83	30.08
		KTs*SDDEs*EEDEDDLLQR	2270.82	43.36	107.83

		KTSs*DDEs*EEDEDDLLQR	2270.83	43.25	120.41
		VQEHEDs*GDs*EVENEAK	2061.73	28.98	64.94
405	Q9Y6D5	GSs*LSGTDDGAQEVVKDILEDVVTSAIK	2913.39	83.38	85.67
406	Q9Y6E2	KFVEWLQNAEEEs*Es*EGEEN	2542.94	69.64	36.25
407	Q9Y6G9	DFQEYVEPGEDFPAs*PQRR	2347.00	51.78	28.83
		KPVTVSPTTPTs*PTEGEAS	1965.91	34.28	54.21
408	Q9Y6R0	RQLs*LR	852.44	24.77	30.08

m : oxidation on methionine; c : carbamidomethyl on cysteine.