Supplementary Methods for "A domesticated transposon mediates the effects of a SNP responsible for enhanced muscle growth"

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SILAC cell extract

C2C12 cells were SILAC-labeled in DMEM (-Arg, -Lys) medium containing 10 % dialyzed fetal bovine serum (Gibco) supplemented with 84 mg/L $^{13}C_6{}^{15}N_4$ L-arginine and 146 mg/L $^{13}C_6{}^{15}N_2$ L-lysine (Sigma Isotec or Eurisotop) or the corresponding non-labeled amino acids (Sigma), respectively. Three consecutive batches of cells were independently harvested and nuclear extracts prepared as described (Dignam et al, 1983).

MS data acquisition and data analysis

Peptides were desalted on StageTips (Rappsilber et al, 2003) and analyzed by nanoflow liquid chromatography on an EASY-nLC system from Proxeon Biosystems coupled to a LTQ-Orbitrap XL (Thermo Electron). Peptides were separated on a C_{18}-reversed phase column packed with Reprosil and directly mounted on the electrospray ion source on an LTQ-Orbitrap XL. We used a 140 min gradient from 2% to 60% acetonitrile in 0.5% acetic acid at a flow of 200 nl/min. The LTQ-Orbitrap XL was operated with a Top5 MS/MS spectra acquisition method in the linear ion trap per MS full scan in the orbitrap. The raw files were processed with MaxQuant (version 1.0.11.5) and searched with the Mascot search engine (Matrix Science) against an IPI mouse v3.24 protein database concatenated with a decoy of the reversed sequences. Carbamidomethylation was set as fixed modification while methionine oxidation and protein N-acetylation were considered as variable modifications. The search was performed with an initial mass tolerance of 7 ppm mass accuracy for the precursor ion and 0.5 Da for the MS/MS spectra. Search results were processed with MaxQuant with a false discovery rate of 0.01. Prior to statistical

analysis, known contaminants and reverse hits were removed. Only proteins identified with at least two peptides one of them unique were considered for analysis. The protein ratios of the individual experiments were plotted in R (prerelease version 2.8.0).

Cloning and recombinant expression of MGR

The longest ORF in the murine genome containing a start codon (ATG) and a stop codon (TAA) annotated as full-length q3umd3 was subcloned from a BAC (imagenes) into pCR8/Gateway/Topo. The subcloned construct (amino acid exchange at position 575 to histidine) has been completely sequenced. For recombinant expression of a GST fusion protein in E.coli the longest murine ORF was cloned into petM33 (EMBL). E.coli Rosetta culture was induced with 1 mM IPTG and grown overnight at 16 °C . For recombinant expression in HEK 293, cells were transfected with a custom build pcDNA4 Gateway vector having a N-terminal GFP fusion using Lipofectamine 2000 (Invitrogen) according to the manufacturer instructions and harvested with RIPA buffer 24 hours post transfection. Lysates were stored at -80 °C prior to usage.

Bisulfite Sequencing

DNA was prepared using the QIAamp DNA Mini kit (Qiagen) and subsequently treated with bisulfite solution (EZ DNA Methylation kit, Zymo Research). Bisulfite treated DNA was amplified in a single PCR reaction with primers (5'-GGTTTTAAAATTGAGTTAGGGA-3' and 5'-ACTAAATCCTAAAATTCAAAAAAACC-3') using Hot-star Taq (Qiagen). The PCR products were cloned for sequencing into pCR8/Topo vector (Invitrogen) and sequenced in-house.

esiRNA synthesis

he detailed protocol of esiRNA production has been previously published (Kittler et al, 2005). Briefly, optimal region for designing the esiRNA has been chosen using the deqor design algorithm (Henschel et al, 2004) in order to fulfill two criteria: to obtain the most efficient silencing trigger in terms of silencing efficiency, and to get lowest chances to cross-silence other genes. The most favorable fragment was used to design the gene specific primers by the Primer3 algorithm (http://frodo.wi.mit.edu/cgi-bin/primer3/primer3_www.cgi).

mMGR1 forward: 5'-TCACTATAGGGAGAGAAAGGTGTGCACTCTCATACCA-3',

mMGR1 reverse: 5'-TCACTATAGGGAGACACCTCCACCTCTCCCTTTGT-3',

mMGR2 forward: 5'-TCACTATAGGGAGAGCGCTGCGGTAGCAGTAGTAG-3',

mMGR2 reverse: 5'-TCACTATAGGGAGACTATTTTCAGGGTCCCAGCTC-3',

mMGR3 forward: 5'-TCACTATAGGGAGAGAAGCCAAAAGATCCACCTGA-3',

mMGR3 reverse: 5'-TCACTATAGGGAGACAATGCAGGAAGCATGG-3',

Renilla forward: 5'-GCTAATACGACTCACTATAGGGAGAGGATAACTGGTCCGCAGTGGT-3',

Renilla reverse: 5'-GCTAATACGACTCACTATAGGGAGACCCATTCATCCCATGATTCAA-3'.

Three independent esiRNAs for MGR were designed and synthesized. PCR products for the esiRNA production were sequenced using an Applied Biosystems 3730 Genetic Analyzer (Applied Biosystems) according to the manufacturer's instructions. All positions of sequence trace files were confirmed by manual inspection.

Quantitative real-time PCR

For quantitative real-time PCR, RNA was isolated using the PrepEase RNA Spin kit (USB) according to the manufacturer's instructions. cDNA synthesis was carried out using First strand synthesis kit (Fermentas). Primers (mBeta-2-microglobulin forward: 5'-ATTCACCCCCACTGAGACTG-3', mBeta-2-microglobulin reverse: 5'-TGCTATTTCTTTCTGCGTGC-3', mIGF2 forward:

5'-GCCCTCCTGGAGACATACTG-3', mIGF2 reverse: 5'-GTATCTGGGGAAGTCGTCCG-3') were used at 35 nM concentration together with the IQ SYBR green supermix (Biorad) on a Biorad CFX96 RT-PCR machine. Target gene mRNA levels were normalized against quantification of GAPDH mRNA levels for housekeeping using the ΔΔct method (Nolan et al, 2006).

References

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Sequence	Uniprot	Type	Experiment	Charge	m/z	Mass	Mass Error [ppm]	FPR	Mascot Score	Ratio H/L Normalized	Ratio H/L Significance(B)
AVPQLYDSVR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	574.3089	1146.603	0.35785	0.36581	34.36	4.2016	0.0072646
AVPQLYDSVR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	574.3089	1146.603	-1.9079	0.001205	61.36	6.1686	0.006245
AVPQLYDSVR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	574.3089	1146.603	-0.18392	0.188	32.72	4.6903	8.22E-06
DLGSGRPVADAPASLASGAPEQDEESLFEGNIEK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	1152.885	3455.633	2.0507	4.81E-30	63.61	2.4877	0.071755
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	611.335	1220.655	1.8881	0.005397	43.94	5.2084	0.019334
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	611.335	1220.655	-0.69915	0.001649	44.33	7.0028	1.55E-08
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	611.335	1220.655	4.3928	0.006667	23.12	2.6567	0.017553
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	611.335	1220.655	4.261	0.017936	17.56	0.043893	2.13E-08
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	611.335	1220.655	0.9662	0.056325	29.34	1.7747	0.14924
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	786.4538	1570.893	0.69757	1.68E-23	86.39	6.0694	0.011586
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	524.6383	1570.893	1.5789	6.53E-23	52.47	4.6622	0.0005173
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	786.4538	1570.893	1.3563	1.24E-25	67.04	5.5371	1.06E-06
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	786.4538	1570.893	0.10445	7.24E-11	49.01	5.7429	6.40E-07
HLQATHPIHWAVANK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	4	431.4851	1721.911	-0.42437	0.077714	15.47	6.4494	0.0054362
HLQATHPIHWAVANK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	4	431.4851	1721.911	0.079536	0.010027	36.02	4.4924	6.46E-06
IFLTLENVQSQK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	710.3957	1418.777	0.88073	2.63E-10	52.17	6.567	0.0087722
IFLTLENVQSQK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	710.3957	1418.777	0.57167	4.57E-10	49.71	5.3679	1.40E-06
LESDALLSAMLK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	645.8523	1289.69	3.6272	3.03E-21	54.12	6.3587	0.0095725
LESDALLSAMLK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	645.8523	1289.69	1.0617	1.26E-11	71.39	5.3177	7.94E-05
LESDALLSAM(ox)LK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	653.8498	1305.685	-0.1435	1.76E-12	51.96	4.0219	0.00024808
LGTDSFTSIK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	534.7822	1067.55	-0.070599	0.58428	10.21	3.9112	0.010145
LGTDSFTSIK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	534.7822	1067.55	-1.1119	0.001649	49.63	4.9841	0.014435
LGTDSFTSIK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	534.7822	1067.55	-2.7133	0.001649	45.88	4.5914	1.53E-05
LPSETYFFTK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	616.8135	1231.613	0.92397	0.005397	26.04	5.3301	0.011439
LPSETYFFTK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	616.8135	1231.613	-0.39655	0.009076	41.12	4.5706	1.14E-05
NSLEDFFPQGADLETYK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	987.46	1972.905	0.32136	7.44E-14	46.76	5.8058	0.0013689
NSLEDFFPQGADLETYK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	987.46	1972.905	0.88107	5.25E-24	44.91	7.4535	9.13E-08
PVADAPASLASGAPEQDEESLFEGNIEK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	3	957.7892	2870.346	1.1489	0.12713	10.69	2.574	0.067433
PVADAPASLASGAPEQDEESLFEGNIEK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	3	957.7892	2870.346	0.026645	1.07E-06	39	3.0442	0.0065844
PVADAPASLASGAPEQDEESLFEGNIEK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	3	957.7892	2870.346	3.8164	0.036991	7.68	4.0316	0.0006371
QDETGHWISTFYMLK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	619.2943	1854.861	1.6311	0.005265	22.61	6.0391	9.49E-07
QILQEFQNDHQLPWK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	641.9952	1922.964	1.8546	0.087227	12.68	4.5241	0.036648
QILQEFQNDHQLPWK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	641.9952	1922.964	1.1006	0.00053	30.81	4.8267	3.56E-06
SIENMLVAAR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	552.2975	1102.581	-1.5583	9.49E-06	44.25	5.1136	0.02313
SIENMLVAAR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	2	552.2975	1102.581	0.32601	9.49E-06	34.33	4.8669	3.19E-06
SSLLPAAVAVVDEYFK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	570.3101	1707.908	0.94069	3.60E-30	59.28	6.215	0.014161
SSLLPAAVAVVDEYFK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	570.3101	1707.908	0.024406	3.60E-30	54.64	4.4758	1.63E-06
SSLLPAAVAVVDEYFK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	854.9615	1707.908	1.3352	2.10E-58	100.16	6.8287	2.77E-11
SSLLPAAVAVVDEYFK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	570.3101	1707.908	-1.3578	1.19E-14	57.44	6.2043	0.00087459
TSAVWNFFYTDPQHISR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	690.334	2067.98	1.8657	2.49E-21	26.39	3.8579	0.055411
TSAVWNFFYTDPQHISR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	690.334	2067.98	-1.2407	2.35E-24	66.06	5.1242	1.85E-05
TSIVWHFFHVDPQYTWR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	4	555.526	2218.075	0.1268	0.53605	21.81	2.5683	0.047191
YSELSGGDDPLVYWQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	942.9418	1883.869	2.8391	2.31E-24	60.53	4.6173	0.020407
YSELSGGDDPLVYWQR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_1	3	628.9636	1883.869	2.2637	3.17E-05	27.29	5.2866	2.06E-05
YSELSGGDDPLVYWQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_1	2	942.9418	1883.869	1.1238	1.52E-18	60.14	6.8826	7.95E-11
AVPQLYDSVR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	574.3089	1146.603	-0.80552	0.36581	20.36	6.5376	3.65E-21
AVPQLYDSVR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	2	574.3089	1146.603	0.46834	0.52927	14.13		
DLGSGRPVADAPASLASGAPEQDEESLFEGNIEK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	3	1152.885	3455.633	-0.20812	0.77308	6.18	3.3512	2.44E-08
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	611.335	1220.655	-0.060021	0.002458	40.53	7.5686	2.76E-24
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	611.335	1220.655	-0.49491	0.006667	48.02	5.9134	3.71E-19
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	611.335	1220.655	0.66017	0.056325	21.55		
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_2	2	786.4538	1570.893	2.3563	8.68E-16	49.88	7.8949	3.54E-25
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	3	524.6383	1570.893	0.66734	2.58E-08	43.95	10.245	4.45E-26
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	786.4538	1570.893	2.3174	1.72E-05	45.2		
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	3	524.6383	1570.893	2.066	0.000159	62.34		
GRPGSHLGTSTLQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	3	489.5989	1465.775	-2.5149	0.001796	38.28	6.1214	9.07E-14
GRPGSHLGTSTLQR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	3	489.5989	1465.775	2.1784	0.000769	29.92		
GRPGSHLGTSTLQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	3	489.5989	1465.775	-1.6051	0.001796	40.31		
HCILATLLDPCFK	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	3	529.9389	1586.795	1.4886	0.57841	5.17		
HLQATHPIHWAVANK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	4	431.4851	1721.911	-1.6623	0.15823	27.4		
HLQATHPIHWAVANK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	4	431.4851	1721.911	-1.3952	0.002712	36.83		
IFLTLENVQSQK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	for_2	2	710.3957	1418.777	0.20281	6.26E-05	45.74	6.1521	8.63E-16
IFLTLENVQSQK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	710.3957	1418.777	0.037826	0.000138	41.94		

LESDALLSAMLK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	645.8523	1289.69	2.2083	2.60E-05	60.32		
LESDALLSAMLK	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	2	645.8523	1289.69	1.3162	0.002787	38.41		
LESDALLSAM(ox)LK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	653.8498	1305.685	0.33887	0.001385	54.5		
LGTDSFTSIK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	534.7822	1067.55	0.35919	0.36581	26.07	7.6835	1.28E-24
LGTDSFTSIK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	534.7822	1067.55	0.63007	0.36581	20.96		
LPSETYFFTK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	616.8135	1231.613	-1.1772	0.17514	42.66	5.6582	2.67E-15
NSLEDFFPQGADLETYK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	987.46	1972.905	1.1969	7.44E-14	47.95		
PVADAPASLASGAPEQDEESLFEGNIEK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	3	957.7892	2870.346	-1.1442	1.57E-08	33.74		
QILQEFQNDHQLPWK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	3	641.9952	1922.964	0.79801	0.33779	12.38		
SIENM(ox)LVAAR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	2	560.295	1118.575	-0.38721	0.020584	27.11		
SIENM(ox)LVAAR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	2	560.295	1118.575	-16.113	0.020584	41.31		
SIENM(ox)LVAAR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	2	560.295	1118.575	-1.1492	0.060799	41.31		
SSLLPAAVAVVDEYFK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	854.9615	1707.908	4.2817	5.06E-42	54.74	10.582	2.72E-32
SSLLPAAVAVVDEYFK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	3	570.3101	1707.908	2.3218	0.000181	38.91		
TSAVWNFFYTDPQHISR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	3	690.334	2067.98	1.4076	1.59E-11	27.94	4.3035	2.29E-11
TSAVWNFFYTDPQHISR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	3	690.334	2067.98	1.025	0.004271	29.53		
WAVLCVTGLAK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	609.3392	1216.664	0.40826	0.005469	27.48		
WAVLCVTGLAK	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	for_2	2	609.3392	1216.664	-0.52749	0.004115	35.44		
YSELSGGDDPLVYWQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	for_2	2	942.9418	1883.869	0.53666	1.10E-08	46.23	3.1857	1.25E-06
AVPQLYDSVR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	rev_2	2	574.3089	1146.603	-0.48417	0.14626	20.11		
DLGSGRPVADAPASLASGAPEQDEESLFEGNIEK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	3	1152.885	3455.633	1.343	3.26E-17	50.84	0.070399	7.11E-19
DLGSGRPVADAPASLASGAPEQDEESLFEGNIEK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	rev_2	3	1152.885	3455.633	-0.83156	6.13E-12	45.98	0.29292	0.00067091
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	rev_2	2	611.335	1220.655	0.81139	0.001649	48.31	0.12997	4.14E-15
FLQIVAPDYR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	611.335	1220.655	0.45202	0.002458	35.27	0.12034	7.92E-08
GITQALNLVDSLSLK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	786.4538	1570.893	2.8205	1.48E-18	68.83		
GRPGSHLGTSTLQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	3	489.5989	1465.775	-1.502	0.008842	22.62	0.096558	4.65E-15
GRPGSHLGTSTLQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	4	367.451	1465.775	-1.7203	0.95989	18.7		
GRPGSHLGTSTLQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	733.8948	1465.775	-2.5704	0.000411	25.59		
GRPGSHLGTSTLQR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	rev_2	3	489.5989	1465.775	-2.1335	0.036662	30.53		
GRPGSHLGTSTLQR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	3	489.5989	1465.775	-1.9196	0.001796	32.76		
HCILATLLDPCFK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	3	529.9389	1586.795	1.0246	0.52666	18.48	0.12455	8.37E-11
HCILATLLDPCFK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	794.4047	1586.795	1.8526	5.62E-11	40.56		
HCILATLLDPCFK	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	rev_2	3	529.9389	1586.795	0.60258	0.5132	19.48		
IFLTLENVQSQK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	rev_2	2	710.3957	1418.777	1.4409	6.26E-05	47.42	0.068478	7.00E-33
IFLTLENVQSQK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	710.3957	1418.777	0.57942	2.60E-05	56.93	0.024367	3.27E-22
LESDALLSAMLK	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	rev_2	2	645.8523	1289.69	15.63	0.001602	21.2		
LESDALLSAMLK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	645.8523	1289.69	1.0667	9.14E-08	62.64		
LESDALLSAM(ox)LK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	653.8498	1305.685	0.27971	0.000138	47.83	0.18135	8.19E-08
LESDALLSAM(ox)LK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	653.8498	1305.685	-0.28743	9.14E-08	45.86		
LGTDSFTSIK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	rev_2	2	534.7822	1067.55	-0.4219	0.43401	18.24	0.10972	4.37E-24
QILQEFQNDHQLPWK	Q3UMD3;Q8C1U4;Q8CBM9	SILAC-MSMS	rev_2	3	641.9952	1922.964	1.1543	0.032302	15.73	0.06646	6.08E-17
QILQEFQNDHQLPWK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	962.4892	1922.964	0.80071	0.10932	19.61		
QILQEFQNDHQLPWK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	3	641.9952	1922.964	1.3365	0.003667	17.18		
SIENMLVAAR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	552.2975	1102.581	-0.15857	0.17514	9.8	0.23106	3.51E-06
SIENM(ox)LVAAR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	560.295	1118.575	0.24216	0.006667	52.38	0.21912	1.61E-06
SIENM(ox)LVAAR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	rev_2	2	560.295	1118.575	-0.80012	0.004898	45.86		
SIENM(ox)LVAAR	Q3UMD3;Q8C1U4;Q8CBM9	MSMS	rev_2	2	560.295	1118.575	-8.864	0.14626	22.76		
SIENM(ox)LVAAR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	560.295	1118.575	1.1669	0.006667	39.57		
SIENM(ox)LVAAR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	2	560.295	1118.575	0.63407	0.002458	46.49		
SSLLPAAVAVVDEYFK	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	3	570.3101	1707.908	3.7702	1.23E-31	58.13		
TSAVWNFFYTDPQHISR	Q3UMD3;Q8C1U4;Q8CBM9	ISO-MSMS	rev_2	3	690.334	2067.98	1.3879	0.000879	13.59	0.083771	1.42E-14