

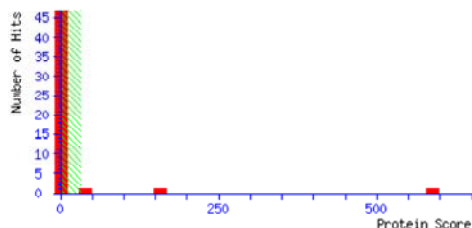


Mascot Search Results

User : JPROS
Email : pro@jbios.co.jp
Search title : D:\JPROS\N093\Upper1(x5)_2micro-2.wiff (sample number 1)
MS data file : mas3E2.tmp
Database : UP589_M_musculus_M_musculus_20201007 (63738 sequences; 28575537 residues)
Timestamp : 5 Jul 2021 at 07:37:50 GMT
Protein hits : [P97449](#) Aminopeptidase N OS=Mus musculus OX=10090 GN=Anpep PE=1 SV=4
[P16406](#) Glutamyl aminopeptidase OS=Mus musculus OX=10090 GN=Enpep PE=1 SV=1
[A0A2R8VHP3](#) Predicted pseudogene 5478 OS=Mus musculus OX=10090 GN=Gm5478 PE=1 SV=1

Mascot Score Histogram

Ions score is $-10 \cdot \log(P)$, where P is the probability that the observed match is a random event.
Individual ions scores > 32 indicate identity or extensive homology ($p < 0.05$).
Protein scores are derived from ions scores as a non-probabilistic basis for ranking protein hits.



Peptide Summary Report

Format As	Peptide Summary	Help
Significance threshold p<	0.05	Max. number of hits
Standard scoring	☐ MudPIT scoring ☒	Display non-significant matches ☒
Show pop-ups	☒ Suppress pop-ups ☐	Sort unassigned
		Decreasing Score
		Require bold red ☐

Select All Select None Search Selected ☐ Error tolerant

1. [P97449](#) Mass: 109582 Score: 588 Matches: 41(17) Sequences: 26(11) emPAI: 0.49
Aminopeptidase N OS=Mus musculus OX=10090 GN=Anpep PE=1 SV=4
☐ Check to include this hit in error tolerant search

Query	Observed	Mr(expt)	Mr(calc)	Delta	Miss	Score	Expect	Rank	Unique	Peptide
☒ 166	423.2363	844.4580	844.4443	0.0137	0	(1)	1.6e+02	1	U	R.ANIDWVK.E
☒ 168	423.2428	844.4710	844.4443	0.0267	0	19	2.5	1	U	R.ANIDWVK.E
191	430.2312	858.4479	858.4599	-0.0120	0	6	54	3	U	K.HFLDSK.S
243	451.2523	900.4901	900.4916	-0.0015	0	(4)	77	6	U	R.ALEQALEK.T
☒ 245	451.2616	900.5086	900.4916	0.0170	0	(41)	0.017	1	U	R.ALEQALEK.T
☒ 246	451.2624	900.5103	900.4916	0.0187	0	48	0.0033	1	U	R.ALEQALEK.T
☒ 248	451.2688	900.5230	900.4916	0.0314	0	(47)	0.0039	1	U	R.ALEQALEK.T
☒ 251	455.7259	909.4373	909.4266	0.0107	0	9	19	1	U	R.SEVYGPMK.R
254	458.2574	914.5002	914.4974	0.0028	0	16	4.6	2	U	K.DVMILNR.Y
☒ 272	482.7625	963.5105	963.5025	0.0080	0	20	1.7	1	U	K.TLIPDSYR.V
☒ 327	593.2718	1184.5290	1184.5383	-0.0093	1	12	11	1	U	R.SEYMEGDVKK.V
☒ 360	619.3439	1236.6733	1236.6172	0.0561	0	54	0.00062	1	U	K.DLMVLNDVYR.V
☒ 361	621.3301	1240.6457	1240.6299	0.0158	0	29	0.18	1	U	R.TLDGTPAPNIDK.T
☒ 365	627.3147	1252.6149	1252.6122	0.0027	0	(22)	0.96	1	U	K.DLMVLNDVYR.V + Oxidation (M)
☒ 368	627.8008	1253.5870	1253.5637	0.0233	0	34	0.062	1	U	K.ADNSATGFGTGTR.A
☒ 369	627.8041	1253.5937	1253.5637	0.0301	0	(29)	0.21	1	U	K.ADNSATGFGTGTR.A
☒ 424	664.7852	1327.5559	1327.5577	-0.0018	0	(11)	12	1	U	K.SFPCFDEPAMK.A + Carbamidomethyl (C)
☒ 425	664.7951	1327.5756	1327.5577	0.0179	0	50	0.0015	1	U	K.SFPCFDEPAMK.A + Carbamidomethyl (C)
☒ 434	681.3178	1360.6211	1360.6769	-0.0558	0	(32)	0.1	1	U	K.VVATTQMQAADAR.K
☒ 435	681.3429	1360.6712	1360.6769	-0.0056	0	93	7.4e-08	1	U	K.VVATTQMQAADAR.K
☒ 436	681.3468	1360.6790	1360.6769	0.0021	0	(63)	8.2e-05	1	U	K.VVATTQMQAADAR.K
☒ 437	681.3619	1360.7092	1360.6769	0.0323	0	(40)	0.017	1	U	K.VVATTQMQAADAR.K
☒ 445	689.3477	1376.6808	1376.6718	0.0090	0	(27)	0.32	1	U	K.VVATTQMQAADAR.K + Oxidation (M)
☒ 460	715.8791	1429.7437	1429.7163	0.0274	0	(59)	0.00018	1	U	R.MLSSFLEDLTK.K
☒ 463	723.8769	1445.7392	1445.7112	0.0280	0	65	5.1e-05	1	U	R.MLSSFLEDLTK.K + Oxidation (M)
☒ 466	486.2336	1455.6789	1455.6526	0.0263	1	16	3.5	1	U	R.KSFPCFDEPAMK.A + Carbamidomethyl (C)
☒ 471	497.2615	1488.7628	1488.7719	-0.0090	1	18	2.4	1	U	K.VVATTQMQAADARK.S
☒ 476	505.6108	1513.8107	1513.7889	0.0218	0	52	0.00082	1	U	R.AQIIHDSFNLSAK.M
☒ 477	759.3846	1516.7547	1516.7562	-0.0015	0	54	0.00056	1	U	R.YLSYTLNPDYIR.K
☒ 491	790.4527	1578.8909	1578.8478	0.0431	0	42	0.0084	1	U	K.AVNQQTAVQPPATVR.T
☒ 492	790.4528	1578.8911	1578.8478	0.0433	0	(35)	0.037	1	U	K.AVNQQTAVQPPATVR.T
☒ 504	857.9025	1713.7904	1713.8057	-0.0153	0	(13)	6.6	1	U	R.ESSLVFDQSQSSISNK.E
☒ 505	857.9253	1713.8361	1713.8057	0.0304	0	63	6.4e-05	1	U	R.ESSLVFDQSQSSISNK.E
☒ 507	880.4347	1758.8549	1758.8465	0.0085	0	22	0.68	1	U	R.FSSEFELQLEQFK.A
☒ 519	639.3401	1914.9983	1914.9476	0.0508	1	21	1	1	U	R.RFSSEFELQLEQFK.A
☒ 526	976.0748	1950.1351	1950.0898	0.0453	0	70	6e-06	1	U	K.LQNQLQTDLSVIPVINR.A
☒ 528	657.0187	1968.0343	1968.0164	0.0180	1	32	0.066	1	U	R.TLDGTPAPNIDKTELVER.T
☒ 538	693.7317	2078.1734	2078.1848	-0.0114	1	24	0.28	1	U	K.KLQNQLQTDLSVIPVINR.A
☒ 545	713.3719	2137.0938	2137.0725	0.0213	0	49	0.0013	1	U	R.VMAVDALASSHPLSSPADEK.T

☒	547	718.6981	2153.0726	2153.0674	0.0052	0	(15)	3.1	1	U	R.VMAVDALASSHPLSSPADEIK.T + Oxidation (M)
☒	554	617.7786	2467.0853	2467.0672	0.0182	0	25	0.22	1	U	K.ESKPYPEDPSC TM TEFHSTPK.M + Carbamidomethyl (C)

2. [P16406](#) Mass: 107888 Score: 147 Matches: 16(8) Sequences: 16(8) emPAI: 0.31
 Glutamyl aminopeptidase OS=Mus musculus OX=10090 GN=Enpep PE=1 SV=1
☐ Check to include this hit in error tolerant search

Query	Observed	Mr(expt)	Mr(calc)	Delta	Miss	Score	Expect	Rank	Unique	Peptide
☒ 222	441.2476	880.4806	880.4477	0.0329	0	19	1.8	1	U	K.GCQIYLK.K + Carbamidomethyl (C)
☒ 264	473.2705	944.5265	944.5179	0.0086	0	21	1.6	1	U	R.EQVLETVK.N
☒ 274	483.7708	965.5270	965.5004	0.0266	0	40	0.016	1	U	R.ASILGFACK.M + Carbamidomethyl (C)
☒ 296	507.3068	1012.5991	1012.5665	0.0326	0	26	0.38	1	U	K.GSASIPVNL.R
☒ 321	539.8117	1077.6089	1077.5819	0.0270	0	41	0.014	1	U	K.TQDVFTVIR.Y
☒ 323	547.7518	1093.4890	1093.5080	-0.0190	0	15	4.8	1	U	R.YISYNSYK.T
☒ 352	607.3039	1212.5932	1212.5445	0.0487	0	34	0.056	1	U	K.TTYMEDGQIR.S
☒ 359	411.2085	1230.6038	1230.6145	-0.0108	0	8	29	5	U	K.INPDHIGFYR.V
☒ 363	623.3701	1244.7256	1244.6765	0.0491	0	34	0.058	1	U	K.STYSISIHPK.E
☒ 376	630.8238	1259.6330	1259.6220	0.0110	0	33	0.077	1	U	R.MLQDWITPEK.F
☒ 378	636.3377	1270.6609	1270.6418	0.0191	0	37	0.033	1	U	K.NNIEWLVNR.Q
☒ 416	656.8559	1311.6972	1311.6459	0.0513	0	39	0.018	1	U	R.SSFIDDAFALAR.A
☒ 446	461.8964	1382.6673	1382.6426	0.0247	0	12	9.5	1	U	R.SIAATDHEPTDAR.K
☒ 454	699.3222	1396.6298	1396.6180	0.0118	0	34	0.062	1	U	K.EYSALSNMPEEK.S
☒ 512	600.3362	1797.9867	1797.9301	0.0565	0	39	0.016	1	U	R.LPDFINPVHYDLEVK.A
☒ 556	838.4133	2512.2180	2512.2445	-0.0265	1	34	0.038	1	U	K.KQEYVVIQAAEDLAATS6DSVYR.L

3. [A0A2R8VHP3](#) Mass: 57884 Score: 47 Matches: 1(1) Sequences: 1(1) emPAI: 0.06
 Predicted pseudogene 5478 OS=Mus musculus OX=10090 GN=Gm5478 PE=1 SV=1
☐ Check to include this hit in error tolerant search

Query	Observed	Mr(expt)	Mr(calc)	Delta	Miss	Score	Expect	Rank	Unique	Peptide
☒ 410	651.8772	1301.7399	1301.7078	0.0321	0	47	0.0025	1	U	R.SLDLSIIAEVK.A

Proteins matching the same set of peptides:

[Q3UV11](#) Mass: 59490 Score: 47 Matches: 1(1) Sequences: 1(1)
 Keratin, type II cytoskeletal 6B OS=Mus musculus OX=10090 GN=Krt6b PE=1 SV=1
[Q8BGZ7](#) Mass: 59704 Score: 47 Matches: 1(1) Sequences: 1(1)
 Keratin, type II cytoskeletal 75 OS=Mus musculus OX=10090 GN=Krt75 PE=1 SV=1
[Q9Z331](#) Mass: 60285 Score: 47 Matches: 1(1) Sequences: 1(1)
 Keratin, type II cytoskeletal 6B OS=Mus musculus OX=10090 GN=Krt6b PE=1 SV=3
[Q922U2](#) Mass: 61729 Score: 47 Matches: 1(1) Sequences: 1(1)
 Keratin, type II cytoskeletal 5 OS=Mus musculus OX=10090 GN=Krt5 PE=1 SV=1
[P50446](#) Mass: 59299 Score: 47 Matches: 1(1) Sequences: 1(1)
 Keratin, type II cytoskeletal 6A OS=Mus musculus OX=10090 GN=Krt6a PE=1 SV=3

Peptide matches not assigned to protein hits: (no details means no match)

Query	Observed	Mr(expt)	Mr(calc)	Delta	Miss	Score	Expect	Rank	Unique	Peptide
☒ 254	458.2574	914.5002	914.4822	0.0180	0	18	2.9	1		GTGVSGGPVGK
☒ 113	400.3000	798.5854	798.4963	0.0891	1	17	1.6	1		VKTVPQK
☒ 188	428.7763	855.5381	855.4814	0.0567	1	16	3	1		IDRLPK
☒ 145	414.2346	826.4547	826.4409	0.0138	1	16	2.7	1		RSAPSPGR
☒ 157	420.2000	838.3854	838.3789	0.0065	1	13	5.4	1		MGRQGMK + 2 Oxidation (M)
☒ 295	507.2938	1012.5731	1012.6029	-0.0298	1	13	7.5	1		LIEKAAVNR
☒ 307	523.3010	1044.5875	1044.4910	0.0965	0	13	8.8	1		LSCETHLK
☒ 191	430.2312	858.4479	858.4018	0.0461	0	13	10	1		NMGLGHSK + Oxidation (M)
☒ 120	400.3000	798.5854	798.4963	0.0891	1	13	3.8	1		VKTVPQK
☒ 319	539.3085	1076.6025	1076.5470	0.0555	1	13	9.3	1		LMLCAENRK
☒ 414	435.7956	1304.3650	1304.5489	-0.1839	1	13	0.78	1		TPEKEHMDMR + 2 Oxidation (M)
☒ 117	400.3000	798.5854	798.4963	0.0891	0	12	4.3	1		LLDIVAR
☒ 150	415.2840	828.5534	828.4454	0.1080	0	12	9.2	1		QSPTLQR
☒ 127	404.3000	806.5854	806.4208	0.1647	0	12	4.1	1		LSAIMEK + Oxidation (M)
☒ 334	400.3000	1197.8782	1197.6982	0.1800	1	12	1.6	1		IIPYVGQPRR
☒ 306	523.2881	1044.5616	1044.6543	-0.0926	1	12	12	1		LSVSLASKIK
☒ 118	400.3000	798.5854	798.4851	0.1004	0	11	5.4	1		LVEIPTK
☒ 265	473.7756	945.5366	945.5495	-0.0129	1	11	14	1		GKATLTVEK
☒ 278	486.2965	970.5784	970.5196	0.0588	0	11	13	1		TPQSAAQLR
☒ 331	599.3563	1196.6980	1196.6587	0.0393	0	11	11	1		LVELLCHSVK + Carbamidomethyl (C)
☒ 479	515.3000	1542.8782	1542.7759	0.1023	1	11	10	1		GDGAPLNQLMRCLR
☒ 231	445.1447	888.2748	888.4553	-0.1805	0	11	11	1		TDITNPTK
☒ 146	414.2386	826.4627	826.4409	0.0217	1	11	8.7	1		RSAPSPGR
☒ 359	411.2085	1230.6038	1230.6431	-0.0393	0	11	15	1		LLQLFHTCEK
☒ 217	435.7841	869.5536	869.4243	0.1293	0	11	12	1		TPTDSPPR
☒ 472	498.1976	1491.5708	1491.7504	-0.1795	1	10	9.2	1		AAAERMILEEFGR
☒ 147	414.2507	826.4869	826.4409	0.0460	1	10	9.9	1		RSAPSPGR
☒ 135	409.1841	816.3537	816.4242	-0.0706	0	10	16	1		ANNPVFR
☒ 428	445.2000	1332.5782	1332.6608	-0.0827	0	10	17	1		QTGMGISNIWAR
☒ 136	409.1849	816.3552	816.4242	-0.0690	0	10	16	1		ANNPVFR
☒ 470	738.3606	1474.7067	1474.6834	0.0233	1	10	16	1		LDSQPCSRIR + Carbamidomethyl (C)
☒ 228	443.3000	884.5854	884.4716	0.1139	0	9	16	1		ALPSDNIR
☒ 199	432.3000	862.5854	862.3974	0.1881	0	9	18	1		YGHPDFK
☒ 341	400.3000	1197.8782	1197.6982	0.1800	1	9	3	1		IIPYVGQPRR
☒ 202	432.3000	862.5854	862.4661	0.1193	0	9	19	1		GYVGVVNR
☒ 144	414.2298	826.4451	826.4409	0.0041	1	9	13	1		RSAPSPGR
☒ 148	414.2675	826.5204	826.4409	0.0794	1	9	13	1		RSAPSPGR

✓	167	423.2403	844.4660	844.4840	-0.0181	0	9	24	1	ILCVAAAGK
✓	114	400.3000	798.5854	798.3984	0.1871	0	9	9.8	1	ISSEAHR
✓	116	400.3000	798.5854	798.4963	0.0891	0	9	9.8	1	IVEAVIR
✓	552	761.7281	2282.1625	2282.1947	-0.0322	1	9	13	1	LGSFTLEKDSLYINGFTHIK
✓	243	451.2523	900.4901	900.5392	-0.0491	0	8	29	1	IATSLVAAR
✓	308	523.3093	1044.6040	1044.5815	0.0225	0	8	29	1	LDTDISLIR
✓	115	400.3000	798.5854	798.4851	0.1004	0	8	12	1	LVEIPTK
✓	387	639.3700	1276.7254	1276.5978	0.1276	0	8	26	1	IVVCCHVSSMVT
✓	164	422.1000	842.1854	842.3705	-0.1850	0	8	2.5	1	EPQPGGCR
✓	373	420.2000	1257.5782	1257.5884	-0.0102	1	7	30	1	AEVPCGAEGGRR + Carbamidomethyl (C)
✓	211	434.2333	866.4520	866.4684	-0.0164	0	7	24	1	VVAMIYR + Oxidation (M)
✓	253	457.2407	912.4668	912.3793	0.0875	0	7	28	1	MSSACATAR + Oxidation (M)
✓	155	419.3303	836.6460	836.4505	0.1955	1	7	6.1	1	TYRGGGVK
✓	181	425.7928	849.5711	849.4014	0.1697	0	7	31	1	TQMAEVR + Oxidation (M)
✓	140	412.7604	823.5062	823.4440	0.0623	1	7	21	1	KFSVESK
✓	158	420.2000	838.3854	838.3789	0.0065	1	7	22	1	MGRQGMK + 2 Oxidation (M)
✓	219	436.1320	870.2494	870.4381	-0.1888	1	7	11	1	MHQKAEK
✓	152	419.3171	836.6196	836.4505	0.1692	1	7	12	1	TYRGGGVK
✓	123	402.3000	802.5854	802.4409	0.1445	1	7	24	1	AAQTTRR
✓	262	471.3547	940.6948	940.5202	0.1745	1	7	13	1	RPDERLR
✓	185	428.2192	854.4239	854.4724	-0.0486	0	7	24	1	VVIFFCK
✓	143	413.2697	824.5249	824.3884	0.1365	1	7	21	1	KTSCVCK + Carbamidomethyl (C)
✓	111	400.1846	798.3547	798.4963	-0.1416	0	6	20	1	VGLQLAAK
✓	335	400.3000	1197.8782	1197.6791	0.1990	0	6	5.5	1	AGLDVGLCLLPK
✓	236	447.3580	892.7015	892.5052	-0.1963	1	6	6.1	1	KAVTSIMK + Oxidation (M)
✓	214	434.7933	867.5720	867.4055	0.1665	1	6	30	1	MTRGMTR + Oxidation (M)
✓	273	482.7811	963.5476	963.5501	-0.0025	1	6	43	1	NLYKLASR
✓	119	400.3000	798.5854	798.4599	0.1255	0	6	18	1	LGINAPSK
✓	337	400.3000	1197.8782	1197.7081	0.1701	0	6	6	1	LEVLNLGALTR
✓	137	411.2359	820.4573	820.3861	0.0711	1	6	31	1	MGQKGER + Oxidation (M)
✓	224	441.7779	881.5413	881.5698	-0.0285	0	6	35	1	ILNKPGLK
✓	366	627.3573	1252.7000	1252.5295	0.1705	0	6	37	1	MDQSPGYHR
✓	163	421.7769	841.5393	841.5062	0.0331	0	6	33	1	VAPAIFFK
✓	297	510.2426	1018.4707	1018.5447	-0.0740	0	6	45	1	LTPSAIFDR
✓	141	413.2333	824.4520	824.3889	0.0630	0	6	27	1	VEHNGGR
✓	338	400.3000	1197.8782	1197.7193	0.1588	1	5	6.9	1	LDLTLRALQR
✓	494	534.3000	1599.8782	1599.9031	-0.0250	1	5	38	1	GRAPVHPLMGLALR + Oxidation (M)
✓	300	519.1932	1036.3719	1036.5077	-0.1357	0	5	41	1	ESVPLYDSK
✓	423	443.3000	1326.8782	1326.7157	0.1625	1	5	21	1	RPSHFKEATR
✓	474	504.2684	1509.7833	1509.8012	-0.0179	1	5	41	1	TANLGAGAAQPLRDR
✓	257	462.3000	922.5854	922.4517	0.1337	1	5	50	1	CLFPKCGR
✓	291	502.2154	1002.4162	1002.4189	-0.0027	0	5	55	1	MHDNTVDR + Oxidation (M)
✓	330	599.3000	1196.5854	1196.6625	-0.0771	1	5	46	1	LLANSKAHTR
✓	553	590.3444	2357.3484	2357.1499	0.1985	1	5	16	1	TPVKEPNSENVDISSGGGVGTGWK
✓	165	423.2235	844.4324	844.4290	0.0034	1	5	65	1	EAEPSKGK
✓	511	599.3000	1794.8782	1794.9662	-0.0880	1	5	43	1	GGPGGGLIIDSMPDIRK
✓	196	432.2585	862.5025	862.4007	0.1018	0	4	60	1	VEGMFHK + Oxidation (M)
✓	305	523.2856	1044.5566	1044.6179	-0.0613	0	4	65	1	ILAINSSSLK
✓	218	435.7905	869.5665	869.4178	0.1487	0	4	46	1	VVHECQR
✓	263	472.2648	942.5150	942.5498	-0.0348	0	4	60	1	LPSVTGTR
✓	311	530.2638	1058.5131	1058.5760	-0.0629	0	4	64	1	DAIDPLLFRR
✓	339	400.3000	1197.8782	1197.7193	0.1588	1	4	8.9	1	LDLTLRALQR
✓	201	432.3000	862.5854	862.4661	0.1193	0	4	57	1	GYVGVVNR
✓	269	478.2026	954.3906	954.4883	-0.0976	1	4	51	1	LHSADKER
✓	270	478.2738	954.5331	954.4957	0.0374	0	4	55	1	LIQDHMAK
✓	449	463.1526	1386.4360	1386.6206	-0.1846	1	4	12	1	MNARTYMDVMR
✓	230	444.2461	886.4776	886.4620	0.0156	1	4	80	1	RENEALR
✓	205	432.3000	862.5854	862.4946	0.0908	1	4	61	1	RMILTIL + Oxidation (M)
✓	343	602.3437	1202.6728	1202.6619	0.0109	1	4	66	1	QEAARVTISK
✓	198	432.3000	862.5854	862.4946	0.0908	1	4	61	1	RMILTIL + Oxidation (M)
✓	303	523.1414	1044.2683	1044.4256	-0.1573	0	4	8.3	1	DVMMSYVK
✓	271	481.3000	960.5854	960.4487	0.1367	0	4	78	1	FAEMNPPR
✓	401	432.3000	1293.8782	1293.7081	0.1701	0	4	16	1	YGVQFLLDALR
✓	197	432.3000	862.5854	862.4661	0.1193	0	4	64	1	GYVGVVNR
✓	229	443.3132	884.6119	884.5556	0.0563	1	4	52	1	RALIVASR
✓	524	480.1872	1916.7197	1916.8257	-0.1060	1	4	20	1	CEHCPQAFGDERELQR
✓	453	465.2000	1392.5782	1392.7038	-0.1256	0	4	59	1	ELGGEVYVVGPAR
✓	456	702.4000	1402.7854	1402.5904	0.1950	1	4	60	1	ERNMNVQACGCH + Carbamidomethyl (C)
✓	142	413.2376	824.4606	824.2979	0.1627	1	4	44	1	KCPACGSC + Carbamidomethyl (C)
✓	195	432.2541	862.4936	862.4508	0.0428	1	4	75	1	QSSKAGASK
✓	518	629.2386	1884.6940	1884.8355	-0.1414	1	3	20	1	FTCACPDGMLLAKDMR + 2 Carbamidomethyl (C)
✓	169	423.2477	844.4808	844.3789	0.1018	0	3	85	1	FGTFDMK
✓	255	459.2844	916.5542	916.5090	0.0452	1	3	90	1	ISSAAGRQK
✓	267	476.2510	950.4874	950.4743	0.0131	1	3	80	1	MDLSVDKK + Oxidation (M)
✓	461	481.3000	1440.8782	1440.7249	0.1533	0	3	47	1	TYLTNTPNATAFK
✓	374	420.2000	1257.5782	1257.5693	0.0089	0	3	79	1	TMSQLSTTMSR + Oxidation (M)
✓	473	502.2691	1503.7854	1503.6688	0.1166	1	3	66	1	KAVDEEEAAEER
✓	200	432.3000	862.5854	862.4661	0.1193	0	3	76	1	GYVGVVNR
✓	301	523.1337	1044.2529	1044.4256	-0.1727	0	3	6.5	1	DVMMSYVK
✓	340	400.3000	1197.8782	1197.7193	0.1588	1	3	12	1	LDLTLRALQR
✓	312	533.2740	1064.5335	1064.4557	0.0778	0	3	83	1	DGGCGVSTANGK
✓	551	1120.4353	2238.8560	2238.9964	-0.1404	1	3	20	1	RIHIEEKPDWNNQCGQEE
✓	413	435.7914	1304.3524	1304.5489	-0.1965	1	3	5.8	1	TPEKEHMDMR + 2 Oxidation (M)
✓	329	595.4000	1188.7854	1188.5986	0.1869	1	3	53	1	LEESEGELRK
✓	325	554.2041	1106.3936	1106.5729	-0.1793	1	3	70	1	VWICTKCVR
✓	173	425.2130	848.4115	848.4504	-0.0390	1	3	87	1	QKFSPSR

☒											
☒	386	638.3215	1274.6285	1274.7023	-0.0738	0	3	86	1	LLEIWIEFGR	
☒	516	628.2355	1881.6847	1881.7105	-0.0258	0	3	23	1	NDENSVSSTCHES _C GEK + Carbamidomethyl (C)	
☒	259	463.1610	924.3074	924.4454	-0.1380	1	3	64	1	DGRYTWK	
☒	333	599.3889	1196.7633	1196.6335	0.1297	0	2	55	1	ILAAALTECHR	
☒	510	595.4000	1783.1782	1783.0243	0.1538	1	2	6.1	1	LTPIGVIPKENALNLK	
☒	258	463.1548	924.2950	924.4487	-0.1537	0	2	60	1	IVGGYT _C R + Carbamidomethyl (C)	
☒	124	402.3000	802.5854	802.4185	0.1670	0	2	65	1	GLQTQEK	
☒	187	428.2563	854.4981	854.4862	0.0119	0	2	65	1	QSLSPVK	
☒	324	550.2733	1098.5320	1098.4447	0.0873	0	2	85	1	MQHSAHGCR + Carbamidomethyl (C); Oxidation (M)	
☒	497	540.6000	1618.7782	1618.8580	-0.0798	1	2	86	1	LTETHPFLGRAQH	
☒	514	628.2267	1881.6582	1881.8502	-0.1920	1	2	17	1	KPHKCE _C GELFTYR + Carbamidomethyl (C)	
☒	226	441.7955	881.5765	881.4970	0.0794	0	2	76	1	ALEIHTAK	
☒	480	515.6000	1543.7782	1543.7085	0.0697	0	2	84	1	DLGCVVEGYMAL _M K + Oxidation (M)	
☒	284	496.2269	990.4393	990.5134	-0.0742	0	2	1.1e+02	1	GYLDPAVTR	
☒	375	420.2000	1257.5782	1257.5693	0.0089	0	2	1e+02	1	TMSQLSTTMSR + Oxidation (M)	
☒	203	432.3000	862.5854	862.4661	0.1193	0	2	96	1	GYGVVNR	
☒	332	599.3870	1196.7595	1196.6288	0.1307	0	2	64	1	VEPSLEDLPK	
☒	458	472.2091	1413.6056	1413.7827	-0.1772	1	2	93	1	LLRVNPESTTSVV	
☒	138	411.2685	820.5224	820.4477	0.0747	0	2	77	1	LSMLVSR + Oxidation (M)	
☒	208	433.3000	864.5854	864.4276	0.1578	1	2	87	1	TFGPR _C K + Carbamidomethyl (C)	
☒	213	434.7861	867.5577	867.3830	0.1747	1	2	82	1	TKCEEMK	
☒	130	406.2584	810.5023	810.3476	0.1546	1	2	49	1	MGK _C SGR + Carbamidomethyl (C); Oxidation (M)	
☒	513	628.2063	1881.5972	1881.7105	-0.1133	0	2	6.1	1	NDENSVSSTCHES _C GEK + Carbamidomethyl (C)	
☒	342	401.3000	1200.8782	1200.7455	0.1327	0	2	14	1	VHTLPLLRPR	
☒	370	628.2219	1254.4293	1254.5589	-0.1296	0	2	51	1	GDQELHGDQTR	
☒	442	684.2506	1366.4866	1366.5857	-0.0991	0	2	56	1	GDAPSSLAASGM _C K + Carbamidomethyl (C); Oxidation	
☒	501	555.6000	1663.7782	1663.7334	0.0448	1	2	87	1	CSSCGEGFANTYGLKK	
☒	455	702.2733	1402.5320	1402.6155	-0.0836	1	2	66	1	MNARTYMDV _M R + Oxidation (M)	
☒	204	432.3000	862.5854	862.4661	0.1193	0	2	1e+02	1	GYGVVNR	
☒	500	554.2222	1659.6447	1659.8290	-0.1843	1	2	57	1	LKMPewIGGESELR + Oxidation (M)	
☒	438	455.3000	1362.8782	1362.7871	0.0911	1	2	54	1	RLGYISVTDVLK	
☒	220	437.2458	872.4770	872.4426	0.0345	0	2	1.4e+02	1	KPMPEGSK	
☒	232	445.2000	888.3854	888.4413	-0.0559	1	2	1.5e+02	1	RQTAEER	
☒	128	404.3000	806.5854	806.3956	0.1898	0	2	43	1	QMNGTLK + Oxidation (M)	
☒	549	737.7082	2210.1028	2210.1194	-0.0166	0	2	77	1	LWMLEYTTQLTAWQGLR	
☒	372	628.2304	1254.4463	1254.5914	-0.1451	0	1	63	1	DICQSFNLK	
☒	287	498.8173	995.6201	995.5301	0.0900	1	1	1e+02	1	WLEHRQK	
☒	121	401.3000	800.5854	800.4617	0.1238	1	1	78	1	RPGTSKR	
☒	336	400.3000	1197.8782	1197.7193	0.1588	1	1	17	1	LDLTLRALQR	
☒	280	491.2640	980.5134	980.5729	-0.0595	0	1	1.1e+02	1	GLLLPPPMK + Oxidation (M)	
☒	294	505.3568	1008.6990	1008.5465	0.1525	0	1	58	1	QQQLTVHR	
☒	502	421.7670	1683.0387	1682.9654	0.0733	1	1	41	1	LIKPRHLTQCVF _T K	
☒	298	515.3000	1028.5854	1028.5291	0.0564	1	1	1.3e+02	1	VKTSEFYR	
☒	178	425.7810	849.5475	849.4742	0.0733	1	1	1.4e+02	1	TSLV _M RK + Oxidation (M)	
☒	426	667.2019	1332.3892	1332.5881	-0.1988	0	1	13	1	SHNGEKPYGCNK	
☒	160	420.2046	838.3947	838.4371	-0.0424	0	1	91	1	PAAGPPVCK	
☒	285	498.8104	995.6062	995.6127	-0.0065	1	1	1.1e+02	1	ATQVPKPKK	
☒	450	463.1531	1386.4376	1386.6206	-0.1830	1	1	27	1	MNARTYMDV _M R	
☒	215	434.7943	867.5740	867.4338	0.1402	1	1	1e+02	1	FTESKEK	
☒	408	433.3000	1296.8782	1296.7448	0.1333	1	1	39	1	VVADLCLRPRR	
☒	122	402.3000	802.5854	802.4297	0.1558	1	1	96	1	ARAAEGTK	
☒	371	628.2289	1254.4432	1254.5589	-0.1157	0	1	74	1	GDQELHGDQTR	
☒	212	434.7853	867.5561	867.3756	0.1805	0	1	1.1e+02	1	TNTMNGSK + Oxidation (M)	
☒	316	536.2330	1070.4515	1070.6335	-0.1821	0	1	1.5e+02	1	LNVAESVVK	
☒	234	446.3605	890.7065	890.5259	0.1806	1	1	25	1	ILGKMVSK + Oxidation (M)	
☒	180	425.7885	849.5624	849.4014	0.1610	0	1	1.5e+02	1	TQMAEVR + Oxidation (M)	
☒	239	448.2559	894.4972	894.4117	0.0855	0	1	1.3e+02	1	MAATGTEAK + Oxidation (M)	
☒	292	505.2906	1008.5667	1008.4546	0.1121	0	0	1.4e+02	1	TMSEGLAER + Oxidation (M)	
☒	348	404.3000	1209.8782	1209.7081	0.1701	1	0	17	1	KHTLIIEGATK	
☒	240	448.7909	895.5672	895.3957	0.1715	0	0	1.3e+02	1	VDSMDSVK + Oxidation (M)	
☒	493	533.6000	1597.7782	1597.7988	-0.0206	1	0	1.3e+02	1	QLKYEFQGLSEK	
☒	515	628.2352	1881.6838	1881.8720	-0.1882	1	0	38	1	YGPFPFTSCVNKEHK	
☒	184	428.2110	854.4074	854.4538	-0.0464	0	0	1e+02	1	YFDALVK	
☒	112	400.2659	798.5173	798.3582	0.1591	0	0	82	1	TYGEMAK	
☒	517	629.2269	1884.6588	1884.8355	-0.1766	1	0	25	1	FT _C ACPDGMLLAKDMR + 2 Carbamidomethyl (C)	
☒	126	404.3000	806.5854	806.3956	0.1898	0	0	58	1	QMNGTLK + Oxidation (M)	
☒	227	441.8036	881.5926	881.5334	0.0591	1	0	1.1e+02	1	KAAPVTPAK	
☒	314	534.3000	1066.5854	1066.5090	0.0764	1	0	1.5e+02	1	AHKTA _C HSR + Carbamidomethyl (C)	
☒	275	484.2474	966.4802	966.4157	0.0645	0	0	1.4e+02	1	YFTMDFK + Oxidation (M)	
☒	464	484.3000	1449.8782	1449.7212	0.1570	0	0	94	1	TGAPGPQGGPGSTQAK	
☒	400	432.3000	1293.8782	1293.6928	0.1853	1	0	37	1	QEKSSLFQISK	
☒	279	488.2819	974.5493	974.5661	-0.0168	0	0	1.8e+02	1	LIPDHRPK	
☒	419	441.7949	1322.3628	1322.5496	-0.1867	0	0	9.8	1	LAQECYHSNR	
☒	1	400.3000	399.2927								
☒	2	400.3000	399.2927								
☒	3	400.3000	399.2927								
☒	4	400.3000	399.2927								
☒	5	400.3000	399.2927								
☒	6	400.3000	399.2927								
☒	7	400.3000	399.2927								
☒	8	400.3000	399.2927								
☒	9	401.3000	400.2927								
☒	10	402.3000	401.2927								
☒	11	402.3000	401.2927								
☒	12	402.3000	401.2927								

☒			
☒	13	403.2025	402.1952
☒	14	403.2098	402.2025
☒	15	403.2182	402.2109
☒	16	404.3000	403.2927
☒	17	404.3000	403.2927
☒	18	404.3000	403.2927
☒	19	404.3000	403.2927
☒	20	404.3000	403.2927
☒	21	408.3000	407.2927
☒	22	415.1000	414.0927
☒	23	416.4000	415.3927
☒	24	419.2009	418.1937
☒	25	419.2083	418.2010
☒	26	420.2000	419.1927
☒	27	420.2000	419.1927
☒	28	420.2000	419.1927
☒	29	420.2434	419.2362
☒	30	421.3617	420.3544
☒	31	423.3918	422.3845
☒	32	424.1013	423.0941
☒	33	425.3783	424.3710
☒	34	425.3830	424.3758
☒	35	425.3866	424.3793
☒	36	425.3891	424.3818
☒	37	425.3947	424.3875
☒	38	427.3951	426.3879
☒	39	430.1000	429.0927
☒	40	430.1000	429.0927
☒	41	430.2622	429.2549
☒	42	431.1000	430.0927
☒	43	432.3000	431.2927
☒	44	432.3000	431.2927
☒	45	432.3000	431.2927
☒	46	432.3000	431.2927
☒	47	432.3000	431.2927
☒	48	432.3000	431.2927
☒	49	432.3000	431.2927
☒	50	432.3000	431.2927
☒	51	432.3000	431.2927
☒	52	433.1997	432.1925
☒	53	433.3000	432.2927
☒	54	433.3731	432.3658
☒	55	433.4000	432.3927
☒	56	434.3684	433.3611
☒	57	443.3000	442.2927
☒	58	445.1466	444.1393
☒	59	445.2000	444.1927
☒	60	446.1000	445.0927
☒	61	446.2112	445.2039
☒	62	446.2133	445.2060
☒	63	447.2140	446.2067
☒	64	447.2189	446.2116
☒	65	447.2196	446.2123
☒	66	447.2241	446.2169
☒	67	447.3793	446.3720
☒	68	449.3931	448.3858
☒	69	449.3966	448.3894
☒	70	451.3000	450.2927
☒	71	455.3000	454.2927
☒	72	455.3942	454.3870
☒	73	459.3889	458.3816
☒	74	462.2020	461.1947
☒	75	462.3000	461.2927
☒	76	465.2000	464.1927
☒	77	477.3000	476.2927
☒	78	481.3000	480.2927
☒	79	484.3000	483.2927
☒	80	485.4000	484.3927
☒	81	485.4135	484.4062
☒	82	488.2748	487.2676
☒	83	498.4674	497.4601
☒	84	499.4931	498.4859
☒	85	503.4455	502.4382
☒	86	505.3000	504.2927
☒	87	513.4224	512.4152
☒	88	515.3000	514.2927
☒	89	515.6000	514.5927
☒	90	525.3949	524.3876
☒	91	531.5391	530.5319
☒	92	533.6000	532.5927
☒	93	534.3000	533.2927
☒	94	537.4381	536.4308
☒	95	538.1903	537.1830
☒	96	540.6000	539.5927
☒	97	541.4750	540.4677

☒			
☒	98	555.6000	554.5927
☒	99	573.4722	572.4649
☒	100	587.4894	586.4821
☒	101	595.4000	594.3927
☒	102	599.3000	598.2927
☒	103	639.5000	638.4927
☒	104	639.5000	638.4927
☒	105	639.5000	638.4927
☒	106	639.8000	638.7927
☒	107	640.8000	639.7927
☒	108	680.5145	679.5072
☒	109	680.6000	679.5927
☒	110	702.4000	701.3927
☒	125	404.3000	806.5854
☒	129	404.3000	806.5854
☒	131	408.3000	814.5854
☒	132	408.3272	814.6399
☒	133	408.3286	814.6427
☒	134	408.3397	814.6649
☒	139	412.3497	822.6849
☒	149	415.1000	828.1854
☒	151	416.4000	830.7854
☒	153	419.3275	836.6404
☒	154	419.3290	836.6435
☒	156	419.3363	836.6580
☒	159	420.2000	838.3854
☒	161	421.2677	840.5209
☒	162	421.2882	840.5619
☒	170	424.3000	846.5854
☒	171	424.3223	846.6301
☒	172	424.3225	846.6305
☒	174	425.3701	848.7256
☒	175	425.3854	848.7563
☒	176	425.3906	848.7667
☒	177	425.3917	848.7688
☒	179	425.7871	849.5595
☒	182	427.3931	852.7717
☒	183	427.4018	852.7891
☒	186	428.2266	854.4386
☒	189	430.1000	858.1854
☒	190	430.1000	858.1854
☒	192	431.1000	860.1854
☒	193	431.1117	860.2088
☒	194	432.2527	862.4908
☒	206	433.2266	864.4386
☒	207	433.2289	864.4432
☒	209	433.3703	864.7261
☒	210	433.4000	864.7854
☒	216	435.3715	868.7284
☒	221	439.2017	876.3889
☒	223	441.3000	880.5854
☒	225	441.7828	881.5510
☒	233	446.1000	890.1854
☒	235	447.1000	892.1854
☒	237	447.3587	892.7028
☒	238	447.3619	892.7092
☒	241	449.3113	896.6080
☒	242	449.3966	896.7787
☒	244	451.2591	900.5036
☒	247	451.2626	900.5107
☒	249	451.3000	900.5854
☒	250	455.3000	908.5854
☒	252	456.3105	910.6064
☒	256	461.8858	921.7570
☒	260	465.2000	928.3854
☒	261	470.3448	938.6751
☒	266	476.2219	950.4293
☒	268	477.3000	952.5854
☒	276	484.3000	966.5854
☒	277	485.4000	968.7854
☒	281	491.4430	980.8715
☒	282	492.2860	982.5574
☒	283	493.3555	984.6964
☒	286	498.8122	995.6099
☒	288	498.8243	995.6340
☒	289	498.8275	995.6405
☒	290	499.3632	996.7118
☒	293	505.3000	1008.5854
☒	299	515.6000	1029.1854
☒	302	523.1401	1044.2657
☒	304	523.1477	1044.2808
☒	309	525.3949	1048.7752
☒	310	525.4005	1048.7864
☒	313	533.6000	1065.1854
☒	315	535.4615	1068.9085

☒			
☒	317	537.1714	1072.3282
☒	318	537.1753	1072.3361
☒	320	539.5554	1077.0962
☒	322	540.6000	1079.1854
☒	326	555.6000	1109.1854
☒	328	593.5644	1185.1143
☒	344	402.3000	1203.8782
☒	345	402.3000	1203.8782
☒	346	402.3000	1203.8782
☒	347	404.3000	1209.8782
☒	349	404.3000	1209.8782
☒	350	404.3000	1209.8782
☒	351	404.3000	1209.8782
☒	353	609.5324	1217.0502
☒	354	609.5395	1217.0644
☒	355	609.5879	1217.1613
☒	356	611.5471	1221.0796
☒	357	611.5772	1221.1399
☒	358	408.3000	1221.8782
☒	362	415.1000	1242.2782
☒	364	416.4000	1246.1782
☒	367	627.5744	1253.1342
☒	377	421.7733	1262.2981
☒	379	425.3895	1273.1466
☒	380	425.3979	1273.1717
☒	381	425.3979	1273.1719
☒	382	425.7800	1274.3181
☒	383	425.7875	1274.3407
☒	384	425.7877	1274.3413
☒	385	425.7929	1274.3568
☒	388	639.5000	1276.9854
☒	389	639.5000	1276.9854
☒	390	639.5000	1276.9854
☒	391	639.8000	1277.5854
☒	392	427.3000	1278.8782
☒	393	640.8000	1279.5854
☒	394	428.7778	1283.3114
☒	395	430.1000	1287.2782
☒	396	430.1000	1287.2782
☒	397	431.0904	1290.2495
☒	398	431.1000	1290.2782
☒	399	432.3000	1293.8782
☒	402	432.3000	1293.8782
☒	403	432.3000	1293.8782
☒	404	432.3000	1293.8782
☒	405	432.3000	1293.8782
☒	406	432.3000	1293.8782
☒	407	432.3000	1293.8782
☒	409	433.4000	1297.1782
☒	411	435.3727	1303.0963
☒	412	435.3820	1303.1241
☒	415	436.1291	1305.3655
☒	417	440.4150	1318.2231
☒	418	441.3593	1321.0560
☒	420	441.7977	1322.3714
☒	421	441.7980	1322.3720
☒	422	441.8012	1322.3817
☒	427	445.1489	1332.4249
☒	429	446.1000	1335.2782
☒	430	669.5576	1337.1006
☒	431	449.3966	1345.1681
☒	432	451.3000	1350.8782
☒	433	680.6000	1359.1854
☒	439	684.2157	1366.4168
☒	440	684.2248	1366.4351
☒	441	684.2277	1366.4409
☒	443	684.2517	1366.4888
☒	444	686.2401	1370.4656
☒	447	462.3000	1383.8782
☒	448	463.1465	1386.4177
☒	451	463.1607	1386.4601
☒	452	465.1518	1392.4335
☒	457	704.5575	1407.1005
☒	459	477.3000	1428.8782
☒	462	482.7662	1445.2766
☒	465	485.4000	1453.1782
☒	467	491.4523	1471.3350
☒	468	491.4565	1471.3477
☒	469	491.4614	1471.3624
☒	475	505.3000	1512.8782
☒	478	508.2326	1521.6759
☒	481	519.1599	1554.4577
☒	482	778.2671	1554.5197
☒	483	523.1300	1566.3681
☒	484	523.1351	1566.3835

☒			
☒	485	523.1406	1566.4000
☒	486	523.1412	1566.4018
☒	487	523.1433	1566.4081
☒	488	523.1439	1566.4098
☒	489	523.1496	1566.4270
☒	490	525.3949	1573.1628
☒	495	537.1649	1608.4729
☒	496	537.4000	1609.1782
☒	498	544.9190	1631.7352
☒	499	554.2083	1659.6032
☒	503	570.3627	1708.0664
☒	506	431.1173	1720.4402
☒	508	445.1394	1776.5285
☒	509	445.1424	1776.5404
☒	520	639.5000	1915.4782
☒	521	639.5000	1915.4782
☒	522	639.5000	1915.4782
☒	523	639.8000	1916.3782
☒	525	640.8000	1919.3782
☒	527	491.4416	1961.7372
☒	529	667.2204	1998.6394
☒	530	677.4905	2029.4496
☒	531	680.6000	2038.7782
☒	532	511.3234	2041.2643
☒	533	684.2193	2049.6361
☒	534	684.2617	2049.7634
☒	535	685.2239	2052.6498
☒	536	685.2302	2052.6689
☒	537	519.1873	2072.7202
☒	539	523.1329	2088.5026
☒	540	523.1424	2088.5405
☒	541	702.2468	2103.7187
☒	542	702.4000	2104.1782
☒	543	704.2238	2109.6496
☒	544	704.2614	2109.7624
☒	546	537.1774	2144.6806
☒	548	1100.4621	2198.9097
☒	550	554.1977	2212.7615
☒	555	628.2159	2508.8343
☒	557	1494.5000	2986.9854

Search Parameters

Type of search : MS/MS Ion Search
Enzyme : Trypsin
Variable modifications : [Carbamidomethyl \(C\)](#), [Oxidation \(M\)](#)
Mass values : Monoisotopic
Protein Mass : Unrestricted
Peptide Mass Tolerance : ± 0.2 Da
Fragment Mass Tolerance : ± 0.2 Da
Max Missed Cleavages : 1
Instrument type : Default
Number of queries : 557

Mascot: <http://www.matrixscience.com/>