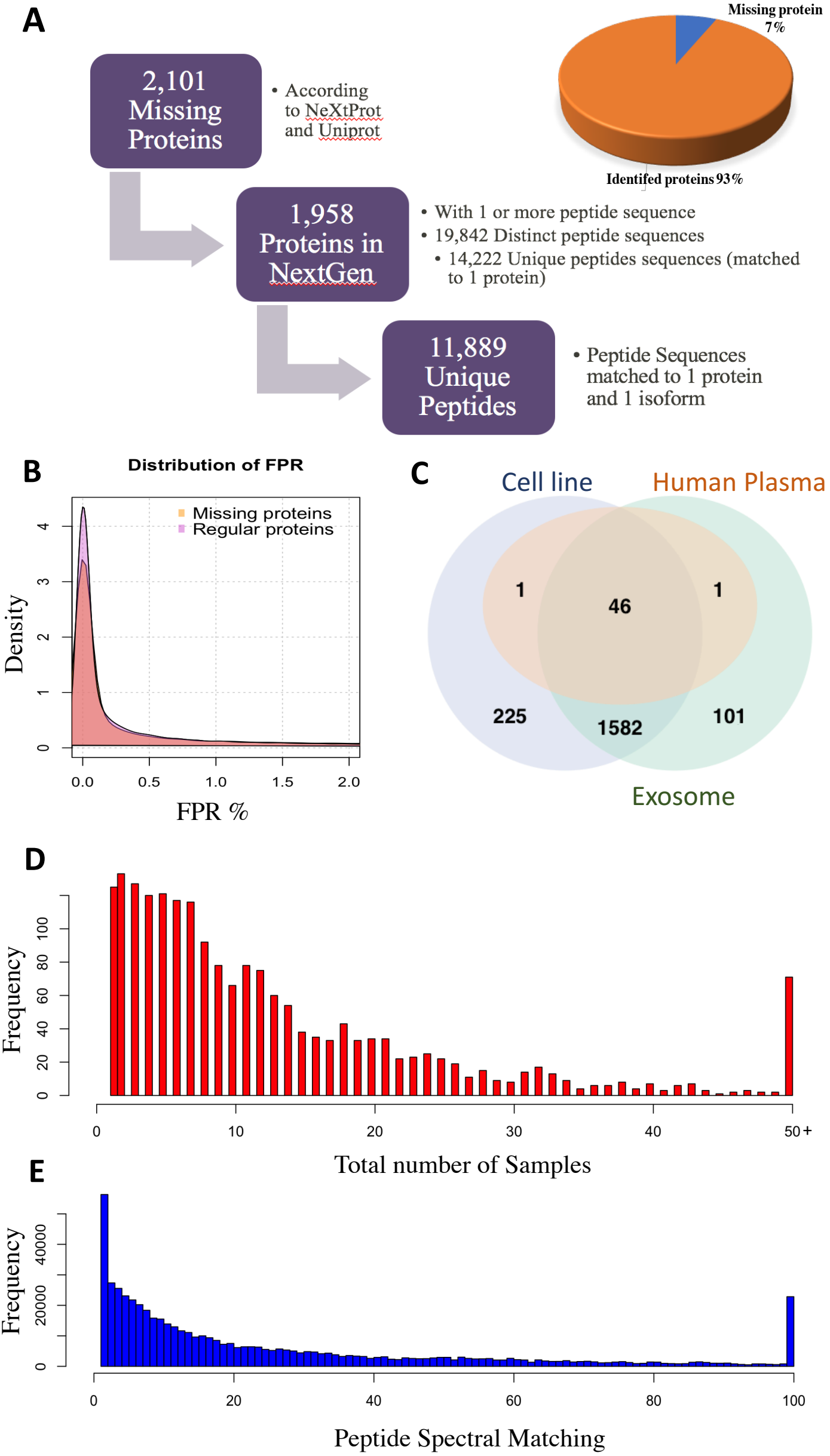
Meta Analysis of the Pan Cancer Proteome Reveals Protein Evidence of 1,958 Proteins without any prior translational evidence

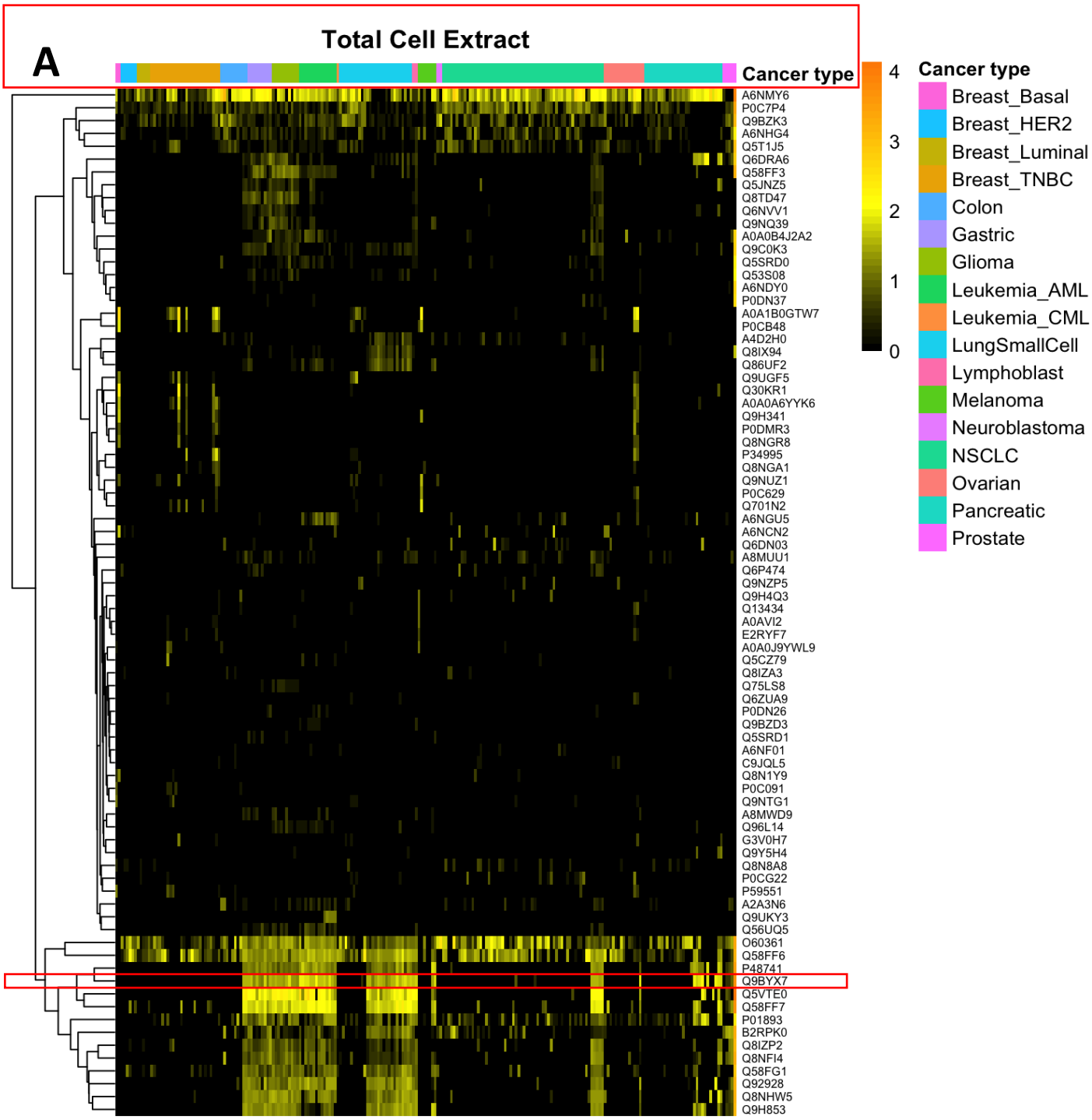
Figure 1


A
2,101 Missing Proteins
According to NeXtProt and Uniprot
Missing protein 7%
Identifed proteins 93%
1,958 Proteins in NextGen
With 1 or more peptide sequence
19,842 Distinct peptide sequences
14,222 Unique peptides sequences (matched to 1 protein)
11,889 Unique Peptides
Peptide Sequences matched to 1 protein and 1 isoform
B
Distribution of FPR
Missing proteins
Regular proteins
Density
FPR %
C
Cell line
Human Plasma
Exosome
1
46
1
225
1582
101
D
Frequency
Total number of Samples
E
Frequency
Peptide Spectral Matching

Supplementary Table 1

Protein existence	Accession	Protein Name	Protein Description	Gene names	N Samples Detected (Total 513 Cell Line and Patient Samples)	Length	Percent Coverage	Non Unique Peptide Count	Unique Peptide Count	Protein Residue Count
Uncertain	A6NMY6	sp|A6NMY6|AXA2L_HUMAN	Putative annexin A2-like protein OS=Homo sapiens OX=9606 GN=ANXA2P2 PE=5 SV=2	ANXA2P2 ANX2L2 ANX2P2 LPC2B	471	339	100	376	376	339
Uncertain	O60361	sp|O60361|NDK8_HUMAN	Putative nucleoside diphosphate kinase OS=Homo sapiens OX=9606 GN=NME2P1 PE=5 SV=1	NME2P1	455	137	100	113	113	137
Uncertain	Q58FF6	sp|Q58FF6|H90B4_HUMAN	Putative heat shock protein HSP 90-beta 4 OS=Homo sapiens OX=9606 GN=HSP90AB4P PE=5 SV=1	HSP90AB4P	447	505	98.812	300	235	505
Uncertain	P01893	sp|P01893|HLAH_HUMAN	Putative HLA class I histocompatibility antigen, alpha chain H OS=Homo sapiens OX=9606 GN=HLA-H PE=5 SV=3	HLA-H HLAH	425	362	99.724	205	205	362
Uncertain	Q9BYX7	sp|Q9BYX7|ACTBM_HUMAN	Putative beta-actin-like protein 3 OS=Homo sapiens OX=9606 GN=POTEKP PE=5 SV=1	POTEKP ACTBL3 FKSG30	385	375	100	181	181	375
Uncertain	Q58FG1	sp|Q58FG1|HS904_HUMAN	Putative heat shock protein HSP 90-alpha A4 OS=Homo sapiens OX=9606 GN=HSP90AA4P PE=5 SV=1	HSP90AA4P HSP90AD HSPCAL2	361	418	95.933	204	170	418
Uncertain	P0C7P4	sp|P0C7P4|UCRIL_HUMAN	Putative cytochrome b-c1 complex subunit Rieske-like protein 1 OS=Homo sapiens OX=9606 GN=UQCRFS1P1 PE=5 SV=1	UQCRFS1P1 UQCRFSL1	355	283	100	145	145	283
Uncertain	Q58FF7	sp|Q58FF7|H90B3_HUMAN	Putative heat shock protein HSP 90-beta-3 OS=Homo sapiens OX=9606 GN=HSP90AB3P PE=5 SV=1	HSP90AB3P HSP90BC	349	597	99.832	456	375	597
Uncertain	Q92928	sp|Q92928|RAB1C_HUMAN	Putative Ras-related protein Rab-1C OS=Homo sapiens OX=9606 GN=RAB1C PE=5 SV=2	RAB1C	347	201	100	138	135	201
Uncertain	Q9BZK3	sp|Q9BZK3|NACP4_HUMAN	Putative nascent polypeptide-associated complex subunit alpha-like protein OS=Homo sapiens OX=9606 GN=NACA4P PE=5 SV=1	NACA4P NACAP1 FKSG17	342	213	90.61	39	39	213
Uncertain	B2RPK0	sp|B2RPK0|HGB1A_HUMAN	Putative high mobility group protein B1-like 1 OS=Homo sapiens OX=9606 GN=HMGB1P1 PE=5 SV=1	HMGB1P1 HMG1L1 HMGB1L1	337	211	89.1	138	138	211
Uncertain	Q5T1J5	sp|Q5T1J5|CHCH9_HUMAN	Putative coiled-coil-helix-coiled-coil-helix domain-containing protein CHCHD2P9, mitochondrial OS=Homo sapiens OX=9606 GN=CHCHD2P9 PE=5 SV=1	CHCHD2P9 C9orf49 CHCHD9	333	151	96.026	51	51	151
Uncertain	P48741	sp|P48741|HSP77_HUMAN	Putative heat shock 70 kDa protein 7 OS=Homo sapiens OX=9606 GN=HSPA7 PE=5 SV=2	HSPA7 HSP70B	327	367	99.728	169	169	367
Uncertain	Q8NHW5	sp|Q8NHW5|RLA0L_HUMAN	60S acidic ribosomal protein P0-like OS=Homo sapiens OX=9606 GN=RPLP0P6 PE=5 SV=1	RPLP0P6	323	317	100	165	165	317
Uncertain	Q9H853	sp|Q9H853|TBA4B_HUMAN	Putative tubulin-like protein alpha-4B OS=Homo sapiens OX=9606 GN=TUBA4B PE=5 SV=2	TUBA4B TUBA4	311	241	100	79	79	241
Evidence at transcript level	A6NHG4	sp|A6NHG4|DDTL_HUMAN	D-dopachrome decarboxylase-like protein OS=Homo sapiens OX=9606 GN=DDTL PE=2 SV=1	DDTL	289	134	100	64	64	134
Uncertain	Q8NFI4	sp|Q8NFI4|F10A5_HUMAN	Putative protein FAM10A5 OS=Homo sapiens OX=9606 GN=ST13P5 PE=5 SV=1	ST13P5 FAM10A5	288	369	90.244	166	131	369
Uncertain	Q6DRA6	sp|Q6DRA6|H2B2D_HUMAN	Putative histone H2B type 2-D OS=Homo sapiens OX=9606 GN=H2BC19P PE=5 SV=3	H2BC19P HIST2H2BD	279	164	87.805	80	51	164
Uncertain	Q5VTE0	sp|Q5VTE0|EF1A3_HUMAN	Putative elongation factor 1-alpha-like 3 OS=Homo sapiens OX=9606 GN=EEF1A1P5 PE=5 SV=1	EEF1A1P5 EEF1AL3	273	462	98.052	497	497	462
Uncertain	Q8IZP2	sp|Q8IZP2|ST134_HUMAN	Putative protein FAM10A4 OS=Homo sapiens OX=9606 GN=ST13P4 PE=5 SV=1	ST13P4 FAM10A4	273	240	92.5	175	140	240
Evidence at transcript level	Q9C0K3	sp|Q9C0K3|ARP3C_HUMAN	Actin-related protein 3C OS=Homo sapiens OX=9606 GN=ACTR3C PE=2 SV=1	ACTR3C ARP11	266	210	100	76	76	210
Inferred from homology	Q5SRD0	sp|Q5SRD0|WAC2D_HUMAN	WASH complex subunit 2D OS=Homo sapiens OX=9606 GN=WASHC2D PE=3 SV=2	WASHC2D FAM21D	257	308	95.779	68	68	308

Figure 2


A
Total Cell Extract
Cancer type
4
3
2
1
0
Cancer type
Breast_Basal
Breast_HER2
Breast_Luminal
Breast_TNBC
Colon
Gastric
Glioma
Leukemia_AML
Leukemia_CML
LungSmallCell
Lymphoblast
Melanoma
Neuroblastoma
NSCLC
Ovarian
Pancreatic
Prostate
A6NMY6
P0C7P4
Q9BZK3
A6NHG4
Q5T1J5
Q6DRA6
Q58FF3
Q5JNZ5
Q8TD47
Q6NVV1
Q9NQ39
A0A0B4J2A2
Q9C0K3
Q5SRD0
Q53S08
A6NDY0
P0DN37
A0A1B0GTW7
P0CB48
A4D2H0
Q8IX94
Q86UF2
Q9UGF5
Q30KR1
A0A0A6YYK6
Q9H341
P0DMR3
Q8NGR8
P34995
Q8NGA1
Q9NUZ1
P0C629
Q701N2
A6NGU5
A6NCN2
Q6DN03
A8MUU1
Q6P474
Q9NZP5
Q9H4Q3
Q13434
A0AVI2
E2RYF7
A0A0J9YWL9
Q5CZ79
Q8IZA3
Q75LS8
Q6ZUA9
P0DN26
Q9BZD3
Q5SRD1
A6NF01
C9JQL5
Q8N1Y9
P0C091
Q9NTG1
A8MWD9
Q96L14
G3V0H7
Q9Y5H4
Q8N8A8
P0CG22
P59551
A2A3N6
Q9UKY3
Q56UQ5
O60361
Q58FF6
P48741
Q9BYX7
Q5VTE0
Q58FF7
P01893
B2RPK0
Q8IZP2
Q8NFI4
Q58FG1
Q92928
Q8NHW5
Q9H853

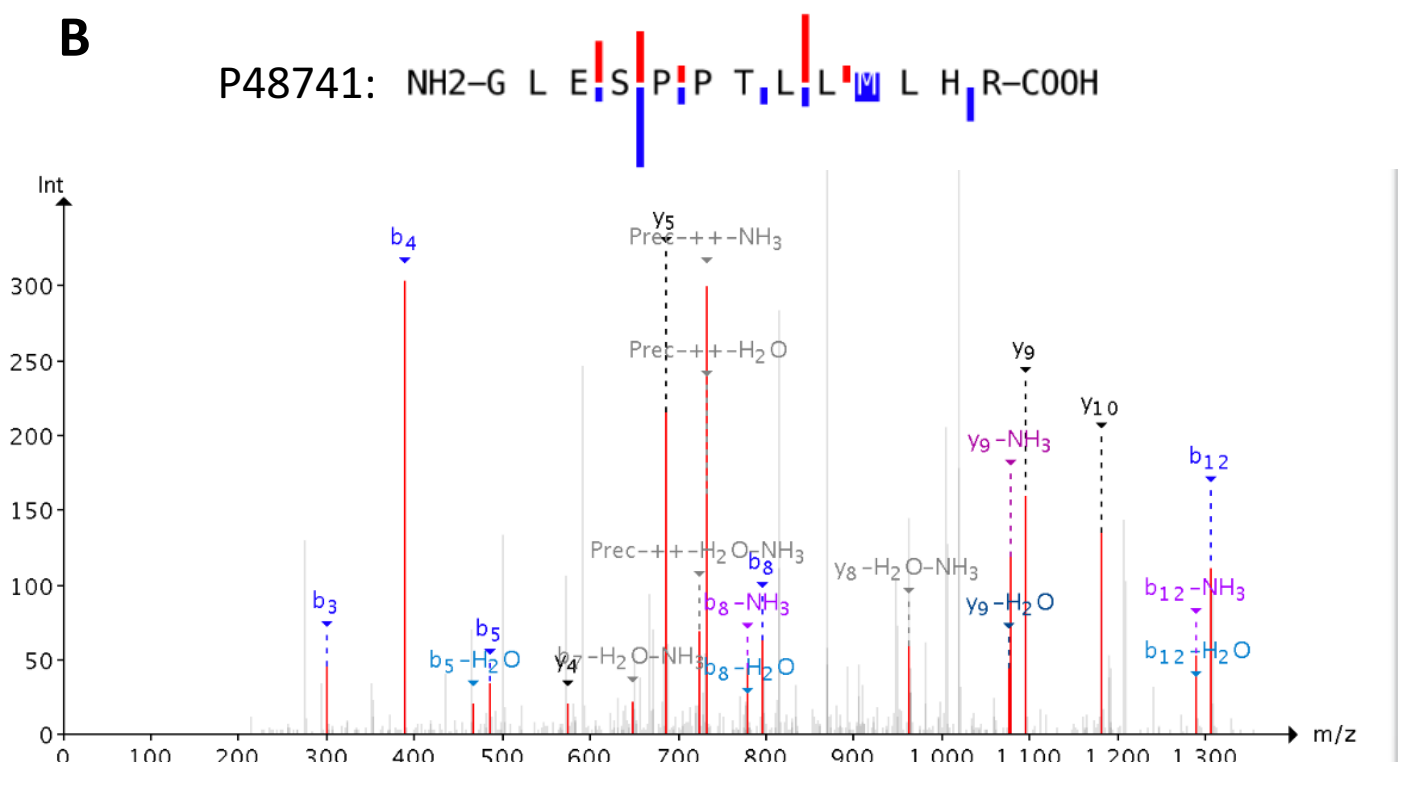
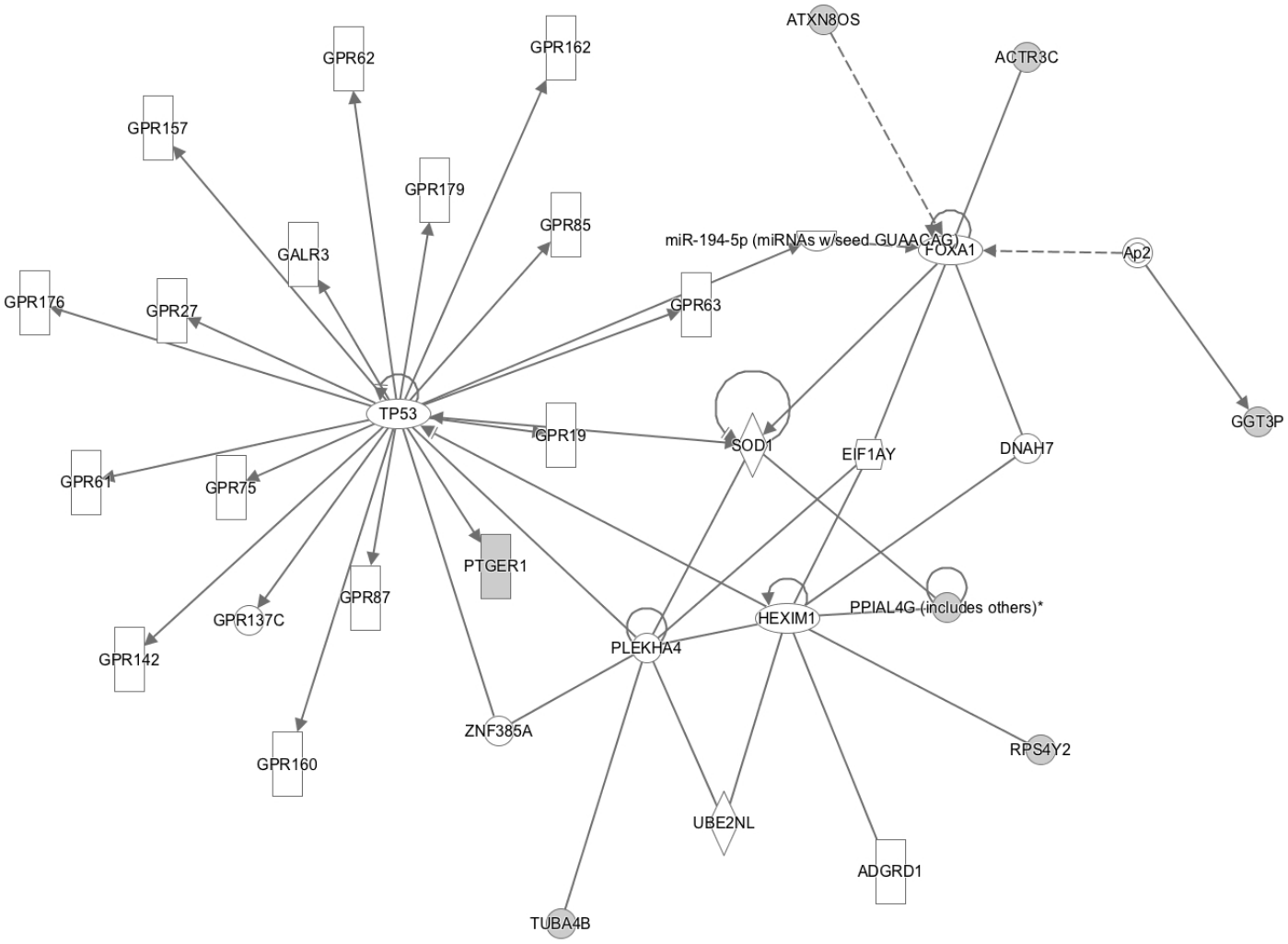

B
P48741: NH2–G L E S P P T L L M L H R–COOH
Int
m/z
b4
y5
Prec-++-NH3
Prec-++-H2O
y9
y10
y9-NH3
b12
Prec-++-H2O-NH3
b8
y8-H2O-NH3
b3
b5
b5-H2O
y4
b8-NH3
b8-H2O
y9-H2O
b12-NH3
b12-H2O

Figure 3

A

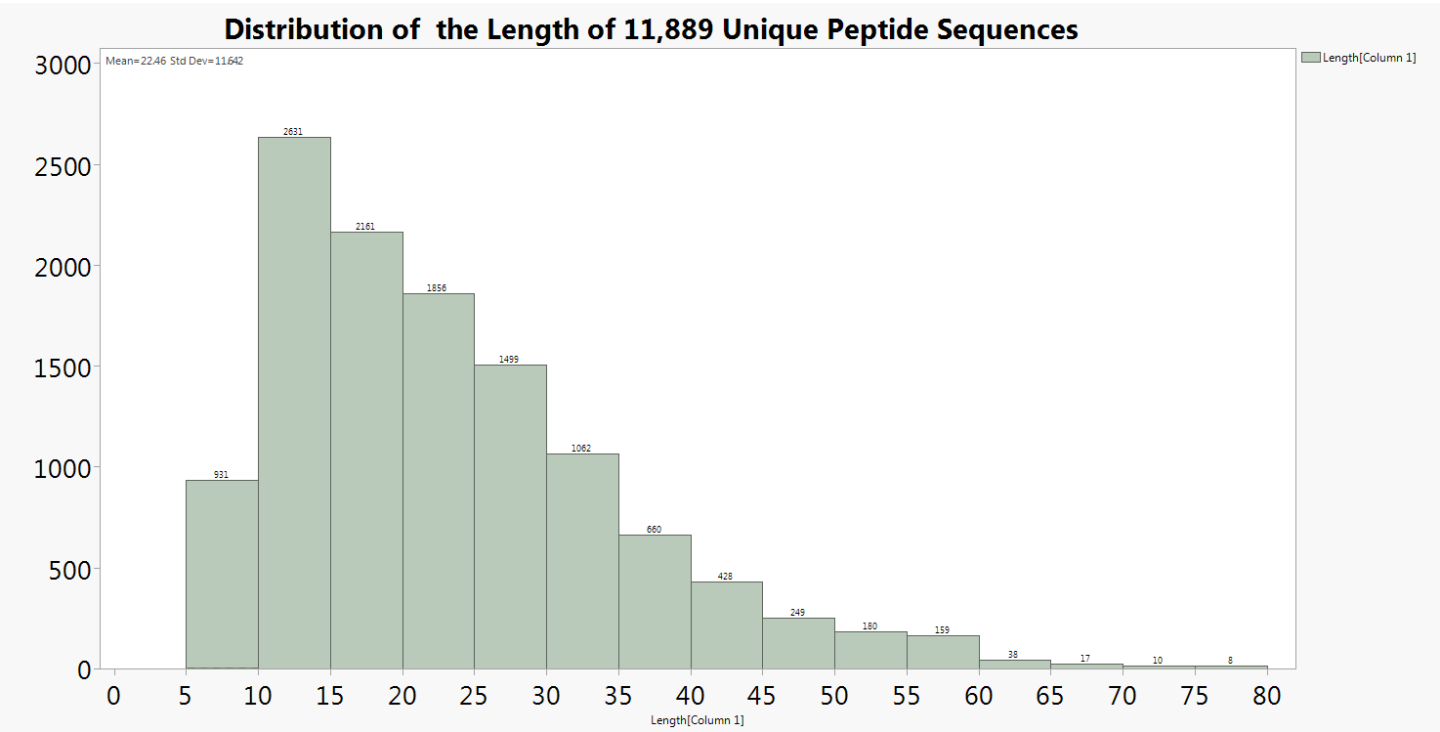


B

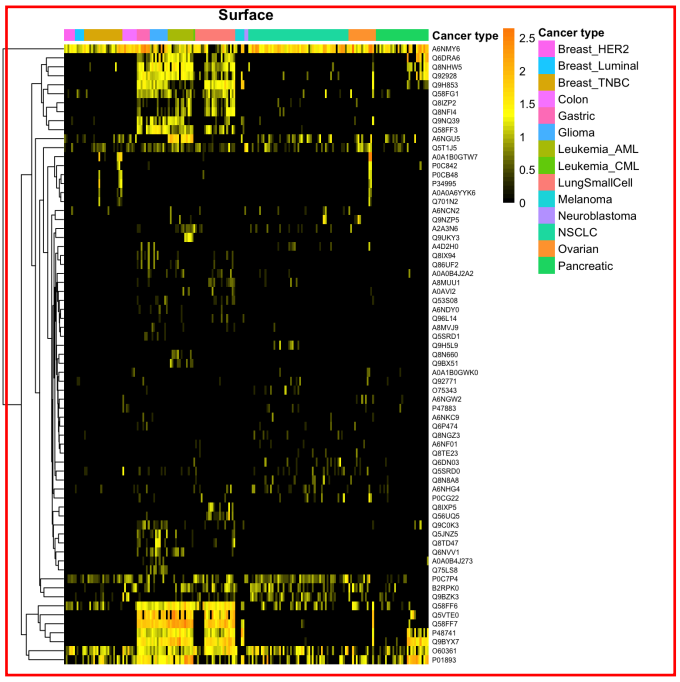
Diseases and Disorders

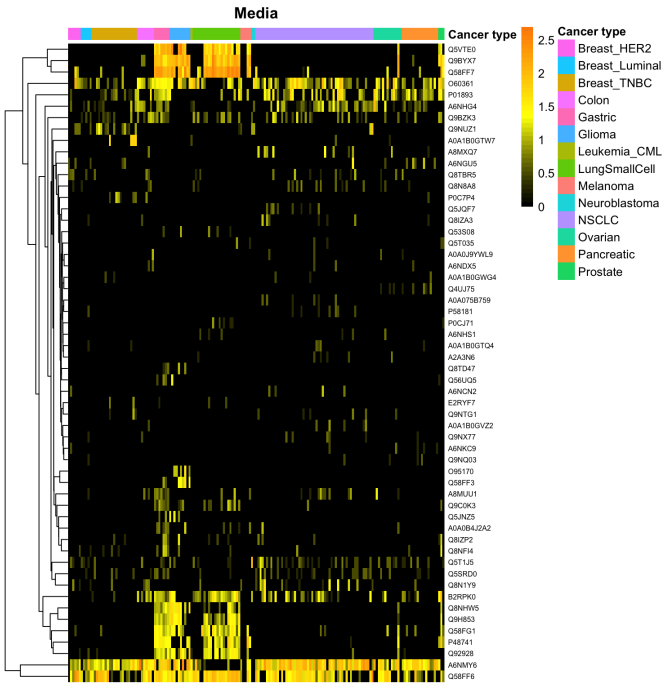
Name	p-value range
Cancer	4.37E-02 – 1.16E-03
Dermatological Diseases and Conditions	3.05E-02 – 1.16E-03
Organismal Injury and Abnormalities	4.68E-02 – 1.16E-03
Hereditary Disorder	4.22E-03 – 1.41E-03
Neurological Disease	2.09E-02 – 1.41E-03

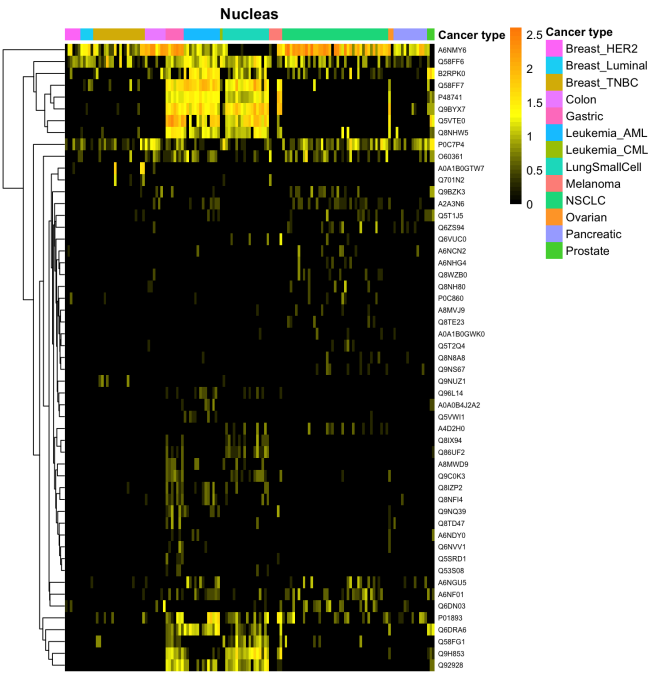
Supplementary Figure 1

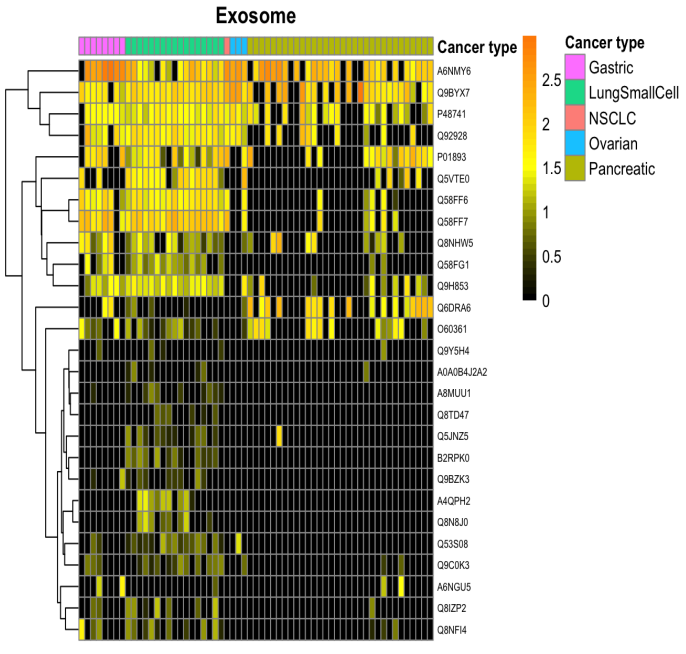


Supplementary Figure 2









Supplementary Figure 3