

Strategy for avoiding protein corona inhibition of targeted drug delivery by linking recombinant affibody scaffold to magnetosomes

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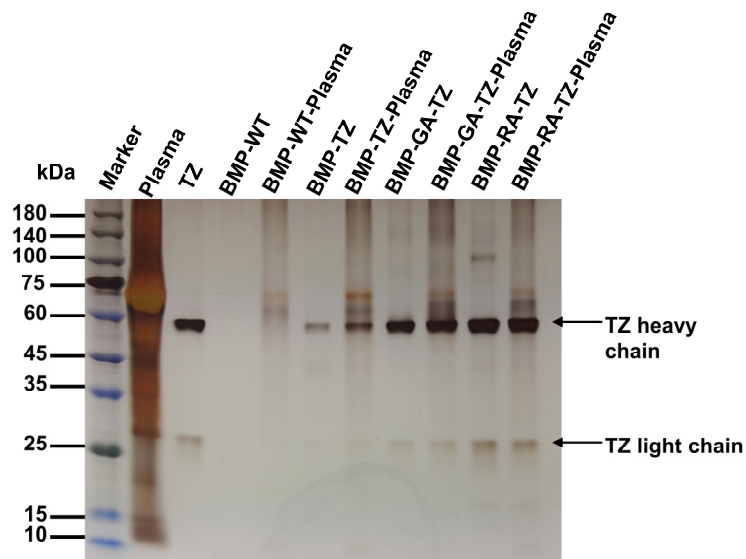


Figure S1. BMP-WT, BMP-GA-TZ, and BMP-RA-TZ were incubated with plasma, and obtained proteins were separated by SDS-PAGE.

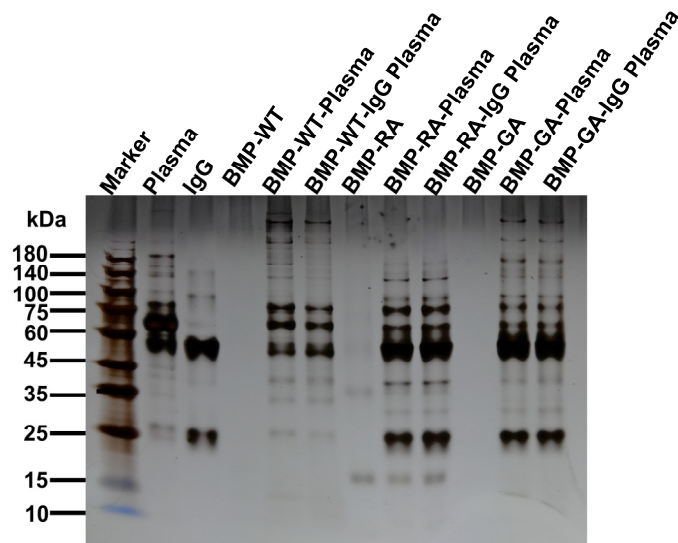


Figure S2. BMP-RA and BMP-GA were incubated with plasma, and obtained proteins were separated by SDS-PAGE.

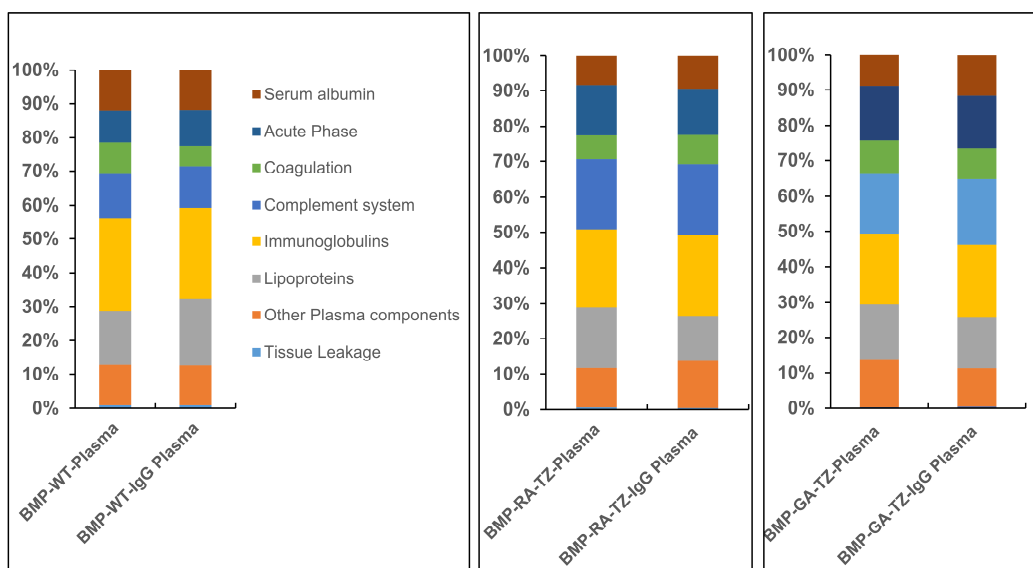


Figure S3. LC-MS analysis, and classification of corona proteins. For protein corona analysis, BMPs were incubated with 100% human plasma for 2 h. Values are expressed as percentages relative to total amount of all identified proteins.

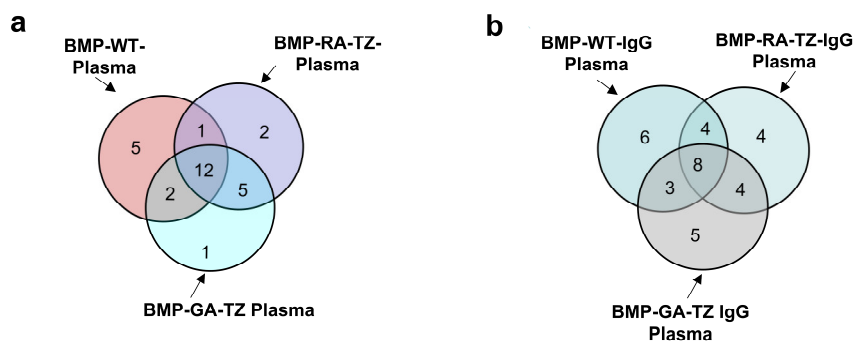


Figure S4. Overlap of protein identifications from BMPs incubated with plasma (a) or IgG plasma (b) by LC-MS/MS analysis.

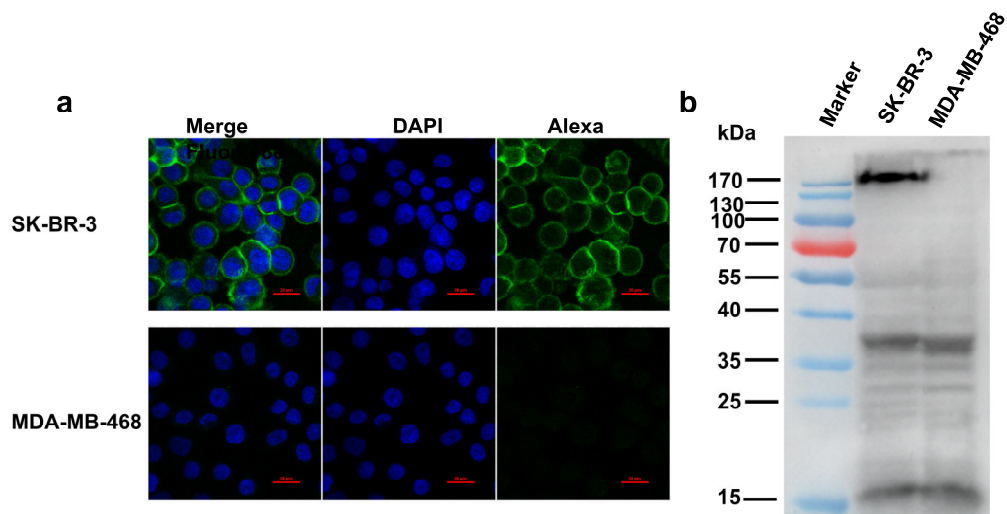


Figure S5. Immunofluorescence (a) and Western blotting (b) analysis of HER2 expression on SK-BR-3 and MDA-MB-468 cells.

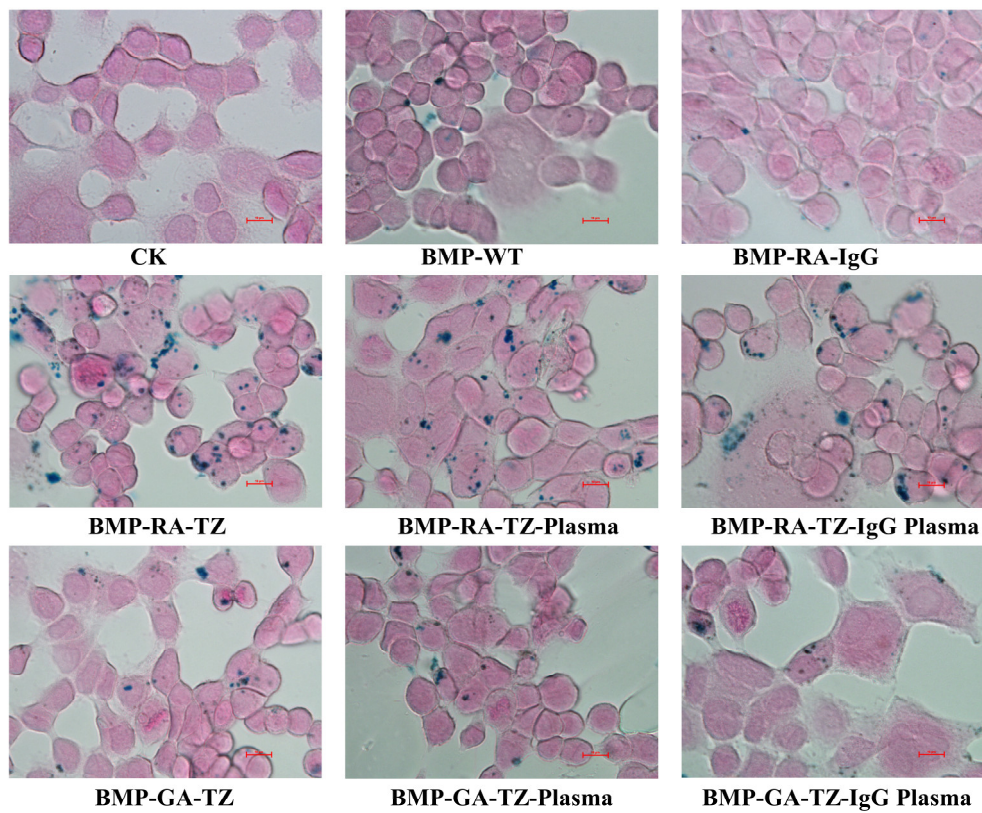


Figure S6. Prussian blue staining of iron in SK-BR-3 cells.

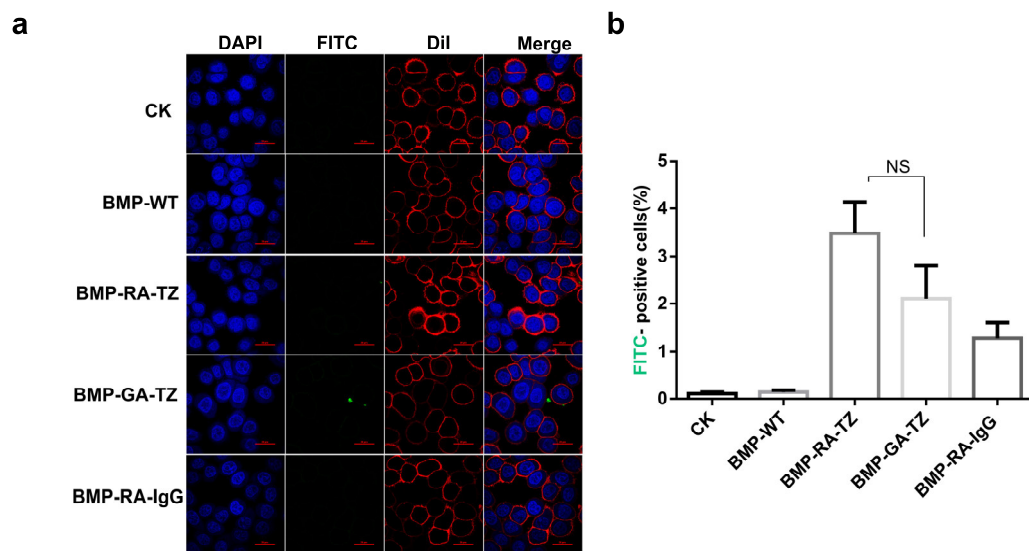


Figure S7. (a) CLSM imaging of MDA-MB-468 cells incubated with BMP-RA-TZ or BMP-GA-TZ. **(b)** Percentages (by flow cytometry) of FITC-positive cells for various conditions, (n=3).

Table S1. Twenty most abundant plasma proteins adsorbed on BMPs, identified by LC-MS/MS analysis. (1: % BMP-WT-Plasma. 2: % BMP-WT-IgG Plasma. 3: % BMP-RA-TZ-Plasma. 4: % BMP-RA-TZ-IgG Plasma. 5: % BMP-GA-TZ-Plasma. 6: % BMP-GA-TZ-IgG Plasma)

Accession	% coverage	Gene Names	Protein Names	1	2	3	4	5	6	MW (kDa)
P02768	54	ALB	Albumin	12.98	11.52	8.65	9.46	8.61	17.68	47.36
P02649	53	APOE	Apolipoprotein E	5.2	6.89	4.28	2.52	3.04	3.08	36.15
P02787	42	TF	Serotransferrin	4.97	3.63	2.74	2.99	4.75	3.62	77.06
A0A075B6K9	62	IGLC2	Immunoglobulin lambda constant 2	4.77	2.71	3.98	3.06	2.78	1.21	11.29
P02647	43	APOA1	Apolipoprotein A-I	4.73	7.1	6.6	4.89	5.19	5.48	30.78
P01767	25	IGHV3-53	Immunoglobulin heavy variable 3-53	4.1	3.64	2.27	1.72	1.56	1.06	12.77
P00738	38	HP	Haptoglobin	4.09	1.73	2.01	0.85	2.61	3.09	45.21
K7ERI9	25	APOC1	Apolipoprotein C-I	2.98	4.71	2.95	0.96	1.74	2.12	8.65
P01619	23	IGKV3-20	Immunoglobulin kappa variable 3-20	2.95	2.61	0.99	1.89	1.72	1.17	12.56
P01625	42	IGKV4-1	Immunoglobulin kappa variable 4-1	2.55	1.4	1.41	1.64	1.49	1.01	13.38
P02749	41	APOH	Beta-2-glycoprotein 1	2.49	2.21	1.01	0.68	1.46	1.5	38.3
P01024	32	C3	Complement C3	2.44	2.38	5.12	5	3.91	3.68	187.15
Q03591	32	CFHR1	Complement factor H-related protein 1	1.9	1.98	1.23	1.17	0.86	0.88	37.65
O43866	33	CD5L	CD5 antigen-like	1.83	0.6	0.59	1	0.62	1.94	38.01
P02675	34	FGB	Fibrinogen beta chain	1.78	1.09	1.369	1.75	1.6	1.2	55.93
A0A0A0MSV6	22	C1QB	Complement C1q subcomponent subunit B	1.76	2.02	1.599	2.3	1.69	1.77	24.03
P01608	24	IGKV1D-33	Immunoglobulin kappa variable 1D-33	1.76	1.57	1.59	1.13	1.03	0.7	12.85
P04208	37	IGLV1-47	Immunoglobulin lambda variable 1-47	1.76	1.57	0.97	0.62	0.57	0.39	12.28
P02747	26	C1QC	Complement C1q subcomponent subunit C	1.57	1.407	0.66	0.56	0.7	0.63	25.77
A0A0C4DH36	25	IGHV3-38	immunoglobulin heavy variable 3-38	1.56	1.387	0.48	0.24	0.48	0.35	12.76

Table S2. The classification of Proteins adsorbed on the surface of BMPs.

BMP-WT-Plasma			BMP-WT-IgG Plasma			BMP-RA-TZ-Plasma			BMP-RA-TZ-IgG Plasma			BMP-GA-TZ-Plasma			BMP-GA-TZ-IgG Plasma		
Accession	Annotation	mol %	Accession	Annotation	mol %	Accession	Annotation	mol %	Accession	Annotation	mol %	Accession	Annotation	mol %	Accession	Annotation	mol %
P00738	Acute Phase	4.09	P05109	Acute Phase	1.80	P01009	Acute Phase	3.69	P05109	Acute Phase	2.18	P01009	Acute Phase	4.33	P00738	Acute Phase	3.09
O43866	Acute Phase	1.83	P00738	Acute Phase	1.73	P00738	Acute Phase	2.01	P01009	Acute Phase	1.77	P00738	Acute Phase	2.61	P01009	Acute Phase	2.65
P05109	Acute Phase	1.09	P00739	Acute Phase	1.15	P05109	Acute Phase	1.12	P01023	Acute Phase	1.41	P01023	Acute Phase	1.59	O43866	Acute Phase	1.94
P01023	Acute Phase	0.70	P01009	Acute Phase	1.08	P00450	Acute Phase	1.02	O43866	Acute Phase	1.00	P02751	Acute Phase	0.84	P00739	Acute Phase	1.51
J3KNB4	Acute Phase	0.50	P59665	Acute Phase	1.01	P01023	Acute Phase	0.96	P00738	Acute Phase	0.85	P01011	Acute Phase	0.80	P01023	Acute Phase	1.15
P59665	Acute Phase	0.46	P02743	Acute Phase	0.80	P10909	Acute Phase	0.65	P00450	Acute Phase	0.85	P00450	Acute Phase	0.77	P00450	Acute Phase	0.85
P01011	Acute Phase	0.41	P01023	Acute Phase	0.65	P02751	Acute Phase	0.59	P02751	Acute Phase	0.78	P05109	Acute Phase	0.63	P02751	Acute Phase	0.71
P02743	Acute Phase	0.38	O43866	Acute Phase	0.60	O43866	Acute Phase	0.59	P10909	Acute Phase	0.75	O43866	Acute Phase	0.62	P10909	Acute Phase	0.46
P00450	Acute Phase	0.34	J3KNB4	Acute Phase	0.45	P02763	Acute Phase	0.55	P02743	Acute Phase	0.58	P02763	Acute Phase	0.58	P05109	Acute Phase	0.43
P10909	Acute Phase	0.27	P10909	Acute Phase	0.39	P02743	Acute Phase	0.50	P00739	Acute Phase	0.55	P02743	Acute Phase	0.53	P01011	Acute Phase	0.39
P02763	Acute Phase	0.18	A0A075B6H6	Acute Phase	0.36	P01011	Acute Phase	0.45	P01011	Acute Phase	0.53	P10909	Acute Phase	0.50	P02760	Acute Phase	0.34
P02751	Acute Phase	0.08	P02763	Acute Phase	0.36	P02760	Acute Phase	0.28	P02760	Acute Phase	0.43	P61626	Acute Phase	0.40	P02765	Acute Phase	0.34
P02675	Coagulation	1.78	P02751	Acute Phase	0.07	P59665	Acute Phase	0.25	P02763	Acute Phase	0.43	P02760	Acute Phase	0.21	P02763	Acute Phase	0.26
P02671	Coagulation	1.00	P02675	Coagulation	1.09	P02765	Acute Phase	0.20	J3KNB4	Acute Phase	0.32	P08697	Acute Phase	0.20	P02743	Acute Phase	0.24
P03951	Coagulation	0.99	P02671	Coagulation	0.89	J3KNB4	Acute Phase	0.12	P08697	Acute Phase	0.19	P02765	Acute Phase	0.13	P59665	Acute Phase	0.18
P01042	Coagulation	0.97	P03951	Coagulation	0.59	Q96PD5	Acute Phase	0.04	P02765	Acute Phase	0.14	J3KNB4	Acute Phase	0.13	P08697	Acute Phase	0.16
P00747	Coagulation	0.78	P01042	Coagulation	0.58	P00734	Coagulation	1.54	Q96PD5	Acute Phase	0.09	A0A096LPE2	Acute Phase	0.11	J3KNB4	Acute Phase	0.09
H0YAC1	Coagulation	0.60	P00747	Coagulation	0.56	P02675	Coagulation	1.36	P02675	Coagulation	1.75	Q96PD5	Acute Phase	0.08	P00734	Coagulation	2.01
A0A0A0MRJ7	Coagulation	0.44	H0YAC1	Coagulation	0.46	E9PGN7	Coagulation	0.71	P00734	Coagulation	1.41	P02675	Coagulation	1.60	P02675	Coagulation	1.20
P00748	Coagulation	0.43	A0A0A0MRJ7	Coagulation	0.36	P02671	Coagulation	0.71	P00747	Coagulation	0.92	P00734	Coagulation	1.39	P00747	Coagulation	0.92
E9PGN7	Coagulation	0.41	P00748	Coagulation	0.30	G5E9F8	Coagulation	0.52	G5E9F8	Coagulation	0.79	P02671	Coagulation	1.14	G5E9F8	Coagulation	0.76
P00734	Coagulation	0.26	E9PGN7	Coagulation	0.28	P00747	Coagulation	0.52	P02671	Coagulation	0.76	E9PGN7	Coagulation	0.96	P02671	Coagulation	0.68
P04196	Coagulation	0.15	G5E9F8	Coagulation	0.20	P04196	Coagulation	0.46	E9PGN7	Coagulation	0.73	G5E9F8	Coagulation	0.80	P05155	Coagulation	0.65
G5E9F8	Coagulation	0.15	P00734	Coagulation	0.18	P01008	Coagulation	0.33	P04196	Coagulation	0.47	P00747	Coagulation	0.78	P01042	Coagulation	0.48

P01008	Coagulation	0.08	P01008	Coagulation	0.15	P01042	Coagulation	0.22	P01008	Coagulation	0.38	P04196	Coagulation	0.57	P04196	Coagulation	0.39
P05546	Coagulation	0.08	P05546	Coagulation	0.14	A0A0A0MRJ7	Coagulation	0.21	P00740	Coagulation	0.38	P01008	Coagulation	0.35	P00748	Coagulation	0.32
P01024	Complement system	2.44	P04196	Coagulation	0.13	P00740	Coagulation	0.20	P01042	Coagulation	0.26	P01042	Coagulation	0.33	P01008	Coagulation	0.28
Q03591	Complement system	1.90	P01024	Complement system	2.38	P20851	Coagulation	0.18	A0A0A0MRJ7	Coagulation	0.19	A0A0A0MRJ7	Coagulation	0.32	A0A0A0MRJ7	Coagulation	0.23
A0A0A0MSV6	Complement system	1.76	A0A0A0MSV6	Complement system	2.02	P00748	Coagulation	0.11	P05546	Coagulation	0.10	P00740	Coagulation	0.21	P05546	Coagulation	0.21
P02747	Complement system	1.58	Q03591	Complement system	1.98	P05546	Coagulation	0.09	P00742	Coagulation	0.10	P03951	Coagulation	0.19	P20851	Coagulation	0.21
B4DPQ0	Complement system	1.33	P02747	Complement system	1.40	H0YAC1	Coagulation	0.03	P20851	Coagulation	0.09	P05546	Coagulation	0.19	P00740	Coagulation	0.19
P04003	Complement system	1.31	P0C0L5	Complement system	0.86	P01024	Complement system	5.12	P00748	Coagulation	0.08	P20851	Coagulation	0.19	P03951	Coagulation	0.16
P09871	Complement system	0.90	B4DPQ0	Complement system	0.72	P0C0L5	Complement system	2.21	H0YAC1	Coagulation	0.03	H0YAC1	Coagulation	0.18	H0YAC1	Coagulation	0.07
P0C0L5	Complement system	0.84	P08603	Complement system	0.52	A0A0A0MSV6	Complement system	1.59	P01024	Complement system	5.01	P00748	Coagulation	0.11	P04275	Coagulation	0.01
P08603	Complement system	0.68	P09871	Complement system	0.40	Q03591	Complement system	1.23	P0C0L5	Complement system	2.51	P04275	Coagulation	0.02	P01024	Complement system	3.68
F5GY80	Complement system	0.60	P07360	Complement system	0.39	P08603	Complement system	1.01	A0A0A0MSV6	Complement system	2.32	P01024	Complement system	3.91	P08603	Complement system	2.08
Q9BXR6	Complement system	0.28	P04003	Complement system	0.38	F5GY80	Complement system	0.86	P08603	Complement system	1.40	P0C0L5	Complement system	2.54	P0C0L5	Complement system	1.91
B4E1Z4	Complement system	0.16	P01031	Complement system	0.19	P07360	Complement system	0.82	P07360	Complement system	1.28	A0A0A0MSV6	Complement system	1.69	P04003	Complement system	1.88
P02748	Complement system	0.14	B4E1Z4	Complement system	0.14	P04003	Complement system	0.80	Q03591	Complement system	1.17	P04003	Complement system	1.36	A0A0A0MSV6	Complement system	1.77
P01031	Complement system	0.12	F5GY80	Complement system	0.13	B4DPQ0	Complement system	0.80	P04003	Complement system	1.03	P02745	Complement system	1.16	B4DPQ0	Complement system	1.12
P07357	Complement system	0.07	P02748	Complement system	0.12	P02748	Complement system	0.72	B4DPQ0	Complement system	1.01	P08603	Complement system	0.98	Q03591	Complement system	0.88
P10643	Complement system	0.04	P07357	Complement system	0.11	P02747	Complement system	0.66	P01031	Complement system	0.65	P01031	Complement system	0.95	P02745	Complement system	0.78
A0A075B6K9	Immunoglobulins	4.77	P10643	Complement system	0.08	P02745	Complement system	0.65	P02748	Complement system	0.57	Q03591	Complement system	0.86	P09871	Complement system	0.75
P01767	Immunoglobulins	4.10	P01767	Immunoglobulins	3.64	P01031	Complement system	0.58	P09871	Complement system	0.57	F5GY80	Complement system	0.72	P02748	Complement system	0.64
P01619	Immunoglobulins	2.95	A0A0B4J1X5	Immunoglobulins	3.35	A0A087X232	Complement system	0.50	P02747	Complement system	0.56	B4DPQ0	Complement system	0.71	P02747	Complement system	0.63
P01625	Immunoglobulins	2.55	A0A075B6K9	Immunoglobulins	2.71	P10643	Complement system	0.45	P02745	Complement system	0.55	P02747	Complement system	0.70	P07357	Complement system	0.61
P01608	Immunoglobulins	1.76	P01619	Immunoglobulins	2.61	P07357	Complement system	0.30	F5GY80	Complement system	0.53	P07360	Complement system	0.63	P07360	Complement system	0.59
P04208	Immunoglobulins	1.76	P01714	Immunoglobulins	1.64	B4E1Z4	Complement system	0.10	P07357	Complement system	0.35	P02748	Complement system	0.59	P10643	Complement system	0.46
A0A0C4DH36	Immunoglobulins	1.56	P01597	Immunoglobulins	1.59	P13671	Complement system	0.06	P10643	Complement system	0.26	P09871	Complement system	0.46	P01031	Complement system	0.45
D6RD17	Immunoglobulins	1.42	P01608	Immunoglobulins	1.57	P01597	Immunoglobulins	5.62	P13671	Complement system	0.11	P07357	Complement system	0.32	P13671	Complement system	0.33
P01876	Immunoglobulins	1.35	P04208	Immunoglobulins	1.57	A0A075B6K9	Immunoglobulins	3.98	B4E1Z4	Complement system	0.10	P10643	Complement system	0.27	B4E1Z4	Complement system	0.05
P01714	Immunoglobulins	1.01	P01625	Immunoglobulins	1.40	P01767	Immunoglobulins	2.26	P01597	Immunoglobulins	4.43	P13671	Complement system	0.24	P01597	Immunoglobulins	3.88

P80748	Immunoglobulins	0.95	A0A0C4DH36	Immunoglobulins	1.38	P01876	Immunoglobulins	2.21	A0A075B6K9	Immunoglobulins	3.06	B4E1Z4	Complement system	0.09	P01876	Immunoglobulins	2.15
A0A0C4DH72	Immunoglobulins	0.87	A0A0J9YX35	Immunoglobulins	1.37	P01608	Immunoglobulins	1.60	P01876	Immunoglobulins	2.58	P48740	Complement system	0.06	A0A075B6K9	Immunoglobulins	1.98
A0A0J9YX35	Immunoglobulins	0.86	P01876	Immunoglobulins	0.99	P01625	Immunoglobulins	1.41	P01619	Immunoglobulins	1.89	A0A075B6K9	Immunoglobulins	2.79	P01619	Immunoglobulins	1.17
P02649	Lipoproteins	5.20	P80748	Immunoglobulins	0.85	A0A0C4DH72	Immunoglobulins	1.38	P01767	Immunoglobulins	1.72	P01597	Immunoglobulins	2.68	P01767	Immunoglobulins	1.83
P02647	Lipoproteins	4.73	A0A0C4DH72	Immunoglobulins	0.77	P01619	Immunoglobulins	0.99	P01625	Immunoglobulins	1.64	P01619	Immunoglobulins	1.72	P01625	Immunoglobulins	1.78
K7ER19	Lipoproteins	2.98	P06331	Immunoglobulins	0.57	P04208	Immunoglobulins	0.97	A0A0C4DH72	Immunoglobulins	1.62	P01767	Immunoglobulins	1.56	A0A0B4J1X5	Immunoglobulins	1.37
P02749	Lipoproteins	2.49	D6RD17	Immunoglobulins	0.22	P80748	Immunoglobulins	0.52	P01608	Immunoglobulins	1.13	P01876	Immunoglobulins	1.53	P01608	Immunoglobulins	1.08
P06727	Lipoproteins	1.07	P02649	Lipoproteins	6.89	A0A0B4J2D9	Immunoglobulins	0.49	A0A0B4J2D9	Immunoglobulins	1.01	P01625	Immunoglobulins	1.49	A0A0C4DH72	Immunoglobulins	0.62
P55056	Lipoproteins	0.31	P02647	Lipoproteins	6.76	A0A0C4DH36	Immunoglobulins	0.48	P01703	Immunoglobulins	0.69	A0A0C4DH72	Immunoglobulins	1.47	A0A075B6R9	Immunoglobulins	0.99
O14791	Lipoproteins	0.20	K7ER19	Lipoproteins	4.71	A0A075B6R9	Immunoglobulins	0.47	P01714	Immunoglobulins	0.65	A0A0B4J1X5	Immunoglobulins	1.45	P01714	Immunoglobulins	0.40
P18428	Lipoproteins	0.16	P02749	Lipoproteins	2.21	P06331	Immunoglobulins	0.35	P04208	Immunoglobulins	0.62	P01608	Immunoglobulins	1.03	P04208	Immunoglobulins	0.39
A0A087WTM7	Lipoproteins	0.09	P55056	Lipoproteins	1.75	P02647	Lipoproteins	6.59	P80748	Immunoglobulins	0.62	P01714	Immunoglobulins	0.59	P80748	Immunoglobulins	0.38
P02787	Other Plasma components	4.97	P06727	Lipoproteins	1.32	P02649	Lipoproteins	4.28	A0A075B6R9	Immunoglobulins	0.55	P04208	Immunoglobulins	0.57	P01612	Immunoglobulins	0.38
F5H423	Other Plasma components	1.01	P18428	Lipoproteins	0.15	K7ER19	Lipoproteins	2.95	P06331	Immunoglobulins	0.41	P80748	Immunoglobulins	0.56	A0A0B4J2D9	Immunoglobulins	0.35
H0YH81	Other Plasma components	0.71	O14791	Lipoproteins	0.09	P06727	Lipoproteins	1.25	A0A0C4DH36	Immunoglobulins	0.24	A0A0B4J2D9	Immunoglobulins	0.52	A0A0C4DH36	Immunoglobulins	0.35
P68871	Other Plasma components	0.65	P02787	Other Plasma components	3.63	P02749	Lipoproteins	1.01	P02647	Lipoproteins	4.89	A0A075B6R9	Immunoglobulins	0.50	P06331	Immunoglobulins	0.25
P02790	Other Plasma components	0.60	C9JC84	Other Plasma components	1.98	V9GYE3	Lipoproteins	0.52	P02649	Lipoproteins	2.53	A0A0C4DH36	Immunoglobulins	0.48	D6RD17	Immunoglobulins	0.60
P04217	Other Plasma components	0.46	P68871	Other Plasma components	1.00	P18428	Lipoproteins	0.47	V9GYE3	Lipoproteins	1.79	P06331	Immunoglobulins	0.37	P01717	Immunoglobulins	0.54
P25311	Other Plasma components	0.43	P61626	Other Plasma components	0.60	P55056	Lipoproteins	0.40	K7ER19	Lipoproteins	0.96	P01717	Immunoglobulins	0.24	V9GYC1	Lipoprotein	0.73
P27169	Other Plasma components	0.36	P25311	Other Plasma components	0.54	P04114	Lipoproteins	0.17	P06727	Lipoproteins	0.81	P01612	Immunoglobulins	0.23	P02647	Lipoproteins	5.48
P05154	Other Plasma components	0.31	P02790	Other Plasma components	0.43	O14791	Lipoproteins	0.11	P02749	Lipoproteins	0.68	D6RD17	Immunoglobulins	0.14	P02649	Lipoproteins	3.08
Q08380	Other Plasma components	0.28	P05154	Other Plasma components	0.28	P02787	Other Plasma components	2.74	P18428	Lipoproteins	0.46	P02652	lipoprotein	0.60	K7ER19	Lipoproteins	2.12
Q02413	Other Plasma components	0.16	Q08380	Other Plasma components	0.25	P27169	Other Plasma components	1.17	P55056	Lipoproteins	0.46	P02647	Lipoproteins	5.19	P02749	Lipoproteins	1.50
P43652	Other Plasma components	0.13	P04217	Other Plasma components	0.22	C9JC84	Other Plasma components	0.97	P02787	Other Plasma components	2.99	P02649	Lipoproteins	3.04	P18428	Lipoproteins	0.77
P36955	Other Plasma components	0.09	H0YH81	Other Plasma components	0.22	Q5T985	Other Plasma components	0.81	P68871	Other Plasma components	1.63	K7ER19	Lipoproteins	1.74	P06727	Lipoproteins	0.35
Q96P63	Other Plasma components	0.09	P01019	Other Plasma components	0.15	P02790	Other Plasma components	0.76	P27169	Other Plasma components	1.36	P02749	Lipoproteins	1.46	P55056	Lipoproteins	0.28
P01019	Other Plasma components	0.08	Q02413	Other Plasma components	0.07	P25311	Other Plasma components	0.72	C9JC84	Other Plasma components	1.00	P06727	Lipoproteins	1.16	A0A087WTM7	Lipoproteins	0.15
D6RAR4	Other Plasma components	0.06	P02768	Serum albumin	11.52	P68871	Other Plasma components	0.62	P02790	Other Plasma components	0.88	P18428	Lipoproteins	1.01	O14791	Lipoproteins	0.04

P02768	Serum albumin	12.98	P04004	Tissue Leakage	0.85	A0A087WW43	Other Plasma components	0.57	Q5T985	Other Plasma components	0.77	P55056	Lipoproteins	0.42	P02787	Other Plasma components	3.62
P04004	Tissue Leakage	0.96				P36955	Other Plasma components	0.47	A0A087WW43	Other Plasma components	0.74	P04114	Lipoproteins	0.37	C9JC84	Other Plasma components	0.99
						P61626	Other Plasma components	0.37	P04217	Other Plasma components	0.72	O14791	Lipoproteins	0.12	P27169	Other Plasma components	0.72
						P04217	Other Plasma components	0.32	P25311	Other Plasma components	0.67	P02787	Other Plasma components	4.75	P36955	Other Plasma components	0.66
						Q08380	Other Plasma components	0.30	P36955	Other Plasma components	0.45	P27169	Other Plasma components	1.24	A0A087WW43	Other Plasma components	0.56
						H0YKS4	Other Plasma components	0.28	P61626	Other Plasma components	0.44	C9JC84	Other Plasma components	1.03	Q5T985	Other Plasma components	0.54
						P19827	Other Plasma components	0.24	P19827	Other Plasma components	0.36	A0A087WW43	Other Plasma components	0.82	P02790	Other Plasma components	0.54
						Q13103	Other Plasma components	0.21	P05154	Other Plasma components	0.34	P02790	Other Plasma components	0.80	P25311	Other Plasma components	0.52
						P01019	Other Plasma components	0.20	Q08380	Other Plasma components	0.29	Q5T985	Other Plasma components	0.70	P68871	Other Plasma components	0.45
						Q96P63	Other Plasma components	0.17	Q96P63	Other Plasma components	0.19	P68871	Other Plasma components	0.66	P61626	Other Plasma components	0.41
						Q02413	Other Plasma components	0.13	P01019	Other Plasma components	0.17	P04217	Other Plasma components	0.57	H0YKS4	Other Plasma components	0.34
						H0YH81	Other Plasma components	0.13	P43652	Other Plasma components	0.17	P36955	Other Plasma components	0.50	P04217	Other Plasma components	0.27
						P05154	Other Plasma components	0.11	Q02413	Other Plasma components	0.16	P05154	Other Plasma components	0.42	P05154	Other Plasma components	0.22
						P43652	Other Plasma components	0.11	P29622	Other Plasma components	0.06	P19827	Other Plasma components	0.37	Q08380	Other Plasma components	0.21
						P35858	Other Plasma components	0.07	D6RAR4	Other Plasma components	0.04	Q08380	Other Plasma components	0.32	P19827	Other Plasma components	0.17
						G3XAP6	Other Plasma components	0.06	P02768	Serum albumin	9.46	P01019	Other Plasma components	0.27	P01019	Other Plasma components	0.14
						P15169	Other Plasma components	0.04	P04004	Tissue Leakage	0.44	P25311	Other Plasma components	0.25	P29622	Other Plasma components	0.12
						D6RAR4	Other Plasma components	0.03				P35858	Other Plasma components	0.21	Q02413	Other Plasma components	0.11
						P02768	Serum albumin	8.65				P29622	Other Plasma components	0.17	P35858	Other Plasma components	0.11
						P04004	Tissue Leakage	0.61				P43652	Other Plasma components	0.15	D6RAR4	Other Plasma components	0.07
												Q02413	Other Plasma components	0.09	P43652	Other Plasma components	0.05
												D6RAR4	Other Plasma components	0.07	P15169	Other Plasma components	0.03
												Q96P63	Other Plasma components	0.05	G3XAP6	Other Plasma components	0.02
												P02768	Serum albumin	8.61	P02768	Serum albumin	11.54
												P04004	Tissue Leakage	0.27	P04004	Tissue Leakage	0.44

Table S3. The abundance of proteins adsorbed on the surface of BMPs. (1: BMP-WT-Plasma. 2: BMP-WT-IgG Plasma. 3: BMP-RA-TZ-Plasma. 4: BMP-RA-TZ-IgG Plasma. 5: BMP-GA-TZ-Plasma. 6: BMP-GA-TZ-IgG Plasma)

Accession	Peptide count	Unique peptides	Abundance						MW (kDa)
			1	2	3	4	5	6	
D6RD17	3	3	10995719	10270106	3779300	1691857	1475346	2506759.4	18.02
Q03591	11	7	2.33E+08	1.39E+08	1.23E+08	56009122	22872602	61761354	37.651
P03951	14	14	85313620	43212534	19913518	7515352	10147166	12013079	70.109
Q96P63	3	3	171933.4	119235.1	459351.6	616040.7	757776.08	710053.68	46.276
H0YKS4	3	3	850392	675290.7	725618.7	338473.1	274934.55	585278.41	19.53
P02647	23	22	4.05E+08	4.65E+08	4.97E+08	3.69E+08	406199113	363670509	30.778
P02649	20	20	4E+08	5.13E+08	1.78E+08	1.45E+08	131998056	161156630	36.154
B4E1Z4	9	9	8366997	7306707	5651835	3099111	5034162.3	4964534.3	140.943
P08603	56	27	32338744	38385390	80746082	89929729	114842284	323199548	139.096
P06727	18	18	22569927	21172665	15269380	12959111	15069361	14602474	45.372
P02760	6	6	1980455	359011.2	11298608	18105440	18704461	32054086	38.999
A0A075B6H6	14	3	1.24E+08	2.39E+08	1.03E+09	1.2E+09	1.237E+09	1.614E+09	11.765
P02751	69	69	85290460	56041258	4.67E+08	5.19E+08	548464045	675092290	272.32
P36955	8	8	16232850	6933624	13820184	17937040	29556202	21691414	46.312
P0C0L5	88	3	8379510	6550470	1.27E+08	1.05E+08	211346259	215495797	192.751
E9PGN7	13	13	21508341	58073804	86785933	85678510	167735889	171783740	59.492
P18428	15	15	15754868	24355437	29400315	26918525	182106054	150433609	53.384
P01011	9	9	19537157	20490584	34153282	33154317	55975667	35450678	47.651
P07360	7	7	4625217	3989958	8391912	7202792	11674953	10431303	22.277
P04211	2	2	7830050	9483029	2942838	3064558	2862100.9	2265559.6	12.451
P04003	31	31	1.49E+08	59870934	3.17E+08	3.24E+08	383883957	716502265	67.033
A0A0C4DH72	4	2	4510838	10197764	63438805	83668386	75743464	68457307	12.697
A0A0J9YX35	4	2	8653137	6584679	1033802	933972.2	726639.74	1138783	12.823
P01767	5	3	2883029	3278929	6098663	6064457	6341915.3	6504914.7	12.77
P02745	7	7	5451180	7385594	73377262	50198043	96604346	173121180	26.017
P04196	11	11	9569258	4940175	17877996	18282942	28631603	19680103	59.578
P07357	14	13	8659554	6091221	11148504	10024353	16492490	22133623	65.163
P20851	2	2	606540.1	1042598	900523.1	1067788	1314629.7	2189831.2	28.357
P01023	60	54	1.41E+08	1.41E+08	2.27E+08	2.01E+08	332592060	250448781	163.291
C9JC84	21	15	78755615	92570560	55724325	33081165	51727027	59239164	52.338
A0A0A0MSV6	9	9	1.1E+08	1.36E+08	1.64E+08	1.4E+08	279926740	343493927	24.031
Q5T985	25	18	6632853	18642611	1.26E+08	1.31E+08	140033608	120923802	105.216
P01717	2	2	4011283	4357370	1752718	701420.1	870131.44	2706177.7	12.011
Q08380	9	9	12915916	14784516	3.03E+08	2.29E+08	257686373	370354913	65.331
G5E9F8	15	15	9484987	6958245	43743417	39268735	42890762	43347381	73.474
F5GY80	19	19	14781115	8154550	25267778	19693247	36607471	38502330	60.041
P00450	39	38	30246540	27953236	1.69E+08	1.67E+08	154759768	142838105	122.205

P13671	15	13	6209131	7583035	9153628	8291574	12531568	21723963	104.786
P00734	32	31	41144238	22249149	2.91E+08	2.39E+08	208306821	479651961	70.037
Q02413	7	7	2698727	5144971	6544393	8028252	5932440.1	9454370.4	113.748
A0A0C4DH36	4	3	4006072	1460310	555136.9	467962.6	360290.48	743068.25	12.759
P01031	47	47	44228163	42059754	1.55E+08	1.16E+08	144181258	147510369	188.305
P01619	4	2	19117566	29897590	16147852	14197893	15364453	16658759	12.557
P02748	14	14	5283624	21477752	53706956	44347433	48967670	84388554	63.173
P27169	11	11	6837218	11484288	46780046	44889129	41265040	29760835	39.731
F5H423	4	4	56841469	2718308	499780.1	499015.6	547422.71	527278.98	23.346
P06331	3	2	24709326	27130153	11851559	10710092	14609139	14304040	13.815
P19827	13	12	17305785	3193317	32969285	34911786	36446273	31441663	101.389
P43652	3	3	634521.5	1466216	1803189	1664778	2250346.9	1902437.4	69.069
P01597	6	3	2033866	2106680	3034041	2659029	2875592.1	2986325	12.737
A0A087WW43	16	16	34704382	4378714	42529382	43780158	58552907	53654988	75.078
A0A0B4J2D9	2	2	10148919	5488021	9367626	8459144	11860130	13946294	12.569
P01608	4	2	9950133	12235495	5549965	5561145	7080312.3	6326544.4	12.848
H0YH81	4	4	4.35E+08	16061949	2330951	4327375	2310698.5	3337326	38.25
P68871	3	3	1141193	1752822	1711376	1215497	1314305.4	1228200.1	15.998
P02790	15	14	65652933	40139853	61268613	55962177	77296346	75741731	51.676
P80748	3	2	19819195	26570546	37728992	30109116	15712833	14062361	12.466
P01714	3	3	7737873	10745239	4496700	5403171	5317677.7	5295243.4	12.042
P05109	3	3	108005.4	270993.8	1297987	876867.9	661317.57	870153.82	10.835
P04275	2	2	211947.2	2443.662	104603.7	101001.1	201921.91	434213.57	309.265
H0YAC1	10	10	30899455	18244539	6195099	7278908	9761677.2	9162986.1	76.885
P02675	25	25	2.95E+08	2.37E+08	1.91E+08	1.8E+08	213256848	216552223	55.928
P00748	6	6	20189757	12385077	6062511	4984848	8337938.7	9426072.9	67.792
O43866	15	15	2.58E+08	1.35E+08	30098743	36199325	36679452	77790680	38.088
A0A0A0MRJ7	36	36	1.06E+08	1.58E+08	42893630	43411801	65468787	65072940	248.983
P01019	5	5	2018066	2272718	5634525	3480554	5460737.3	4325759.7	53.154
P55056	4	4	8863111	13483460	3195286	2244142	7017156.4	4076710.2	14.553
P00740	7	7	2033964	265782.8	3897022	2787262	3036814.1	3544694	51.778
P02787	53	52	1.02E+09	5.06E+08	4.1E+08	2.97E+08	512045003	483945976	77.064
P05546	6	6	1303985	454866.1	2017139	2047562	1998302.4	1296709.1	57.071
P01024	122	108	6.44E+08	7.46E+08	2.12E+09	1.72E+09	1.348E+09	1.452E+09	187.148
P10909	13	13	10595050	8161319	64297310	43092486	29631328	33192387	52.495
O14791	2	2	93496.46	6364224	1805860	224145.7	33060.332	1063404.2	43.974
P04004	12	12	1.67E+08	91250187	1.04E+08	86573875	99370636	102310814	54.306
P15169	2	2	0	223548.4	219647.9	403486.8	226690.43	147789.36	52.286
P10643	15	15	26809917	6215396	18261374	15442931	28347662	29518190	93.518
P04208	3	2	7269406	20557781	5493081	6740965	10400789	1286116	12.284
P01625	5	2	412777.7	25912313	27891237	26139903	27663329	24504441	13.38
P00747	31	31	46701193	53360942	74471285	67979528	52722500	105620343	90.569
P02749	16	13	2.53E+09	1.65E+09	2.83E+08	2.1E+08	418049233	1.238E+09	38.298
P08697	5	5	4075726	19479584	3433659	3532347	4235385.4	3858941.9	54.566
Q96PD5	2	2	81156.16	365370.5	432207.8	317522.9	466592.57	394665.82	62.217
K7ER19	4	4	4312640	13170654	10214191	6226826	17531917	22014263	8.647
P02671	31	31	1.88E+08	1.55E+08	1.4E+08	1.2E+08	160407889	150256692	94.973

P01009	26	26	1.12E+08	1.26E+08	2.61E+08	1.85E+08	223604870	186070138	46.737
P01042	19	19	2.23E+08	70174430	25961581	30907717	42351655	55744743	71.957
A0A075B6R9	3	2	3890674	1253012	4911465	4008758	3549171.9	5414146.7	13.079
Q13103	2	2	460588.7	766644	1378647	898085.5	317623.28	557687.64	24.338
P00739	14	3	6077664	2137715	8133963	5379957	6507442.4	8584826.6	39.03
P04217	9	8	3.26E+08	4795674	6394704	6323695	9601764.6	6009325.4	54.254
P01612	3	3	611324.6	2708019	6300470	4068910	2248596.2	6210568.5	12.737
G3XAP6	2	2	22229.34	313132	1317874	688712.6	190750.75	1333414.8	79.697
P61626	6	6	2690249	4570205	1022900	1426072	839936.64	2958720.5	16.537
P02763	5	3	73405.57	1752167	626322.9	736060	1325207.9	622636.47	23.512
P01008	13	13	2596675	16428596	13734930	11812322	16292566	10120892	52.602
J3KNB4	2	2	78011.39	3587947	254802.6	147450.9	133330.06	372709.06	19.591
P01703	2	2	423911.7	6873769	14793223	15769468	6880434.1	3622917.3	12.302
V9GYE3	2	2	830.0366	1641198	424221.4	438635.1	113905.95	957800.81	5.877
P29622	3	3	520386.4	763036.1	741814.7	552279.5	942637.23	811129.63	48.542
P02743	5	5	898030.9	4124734	5910040	3453725	4339634	3923898.1	25.387
P59665	2	2	380577.4	1133761	591025.1	621876.9	491633.33	1739096.7	10.201
P25311	8	7	7559204	5308489	9096908	8785729	5390250.8	5554223.8	34.259
P02765	5	3	602973.4	7973098	4337254	3130203	5114221.6	3799616.4	39.341
P35858	2	2	38126.23	222189.3	261381.5	8556.481	252389.28	193466.08	66.035
D6RAR4	4	4	2468706	771284.8	436181	467992.7	520506.73	1503618.6	71.483
P05154	5	5	9542414	7108696	1116408	1308584	5255000.9	3950784.2	45.675
P02768	69	63	1.02E+10	6.25E+09	5.95E+09	4.36E+09	7.359E+09	8.662E+09	69.367
P01876	16	5	69629284	98274506	7.06E+08	5.95E+08	124099757	155572671	37.655
A0A096LPE2	3	3	599914.1	3368787	3477118	1461102	2780068	2823523.5	23.353
P09871	20	20	89550433	93020950	83838375	75517488	94643204	106019411	76.684
P02747	6	6	4.47E+08	3.86E+08	3.69E+08	2.45E+08	544603089	580604253	25.774
P00738	23	12	79746749	52292465	71792588	50148572	75166939	70706518	45.205
B4DPQ0	27	27	1.56E+08	1.23E+08	61329590	61995554	96276532	158102588	81.89
A0A075B6K9	7	3	41256608	971006.3	20015920	21815068	9387199.2	6875372.3	11.294