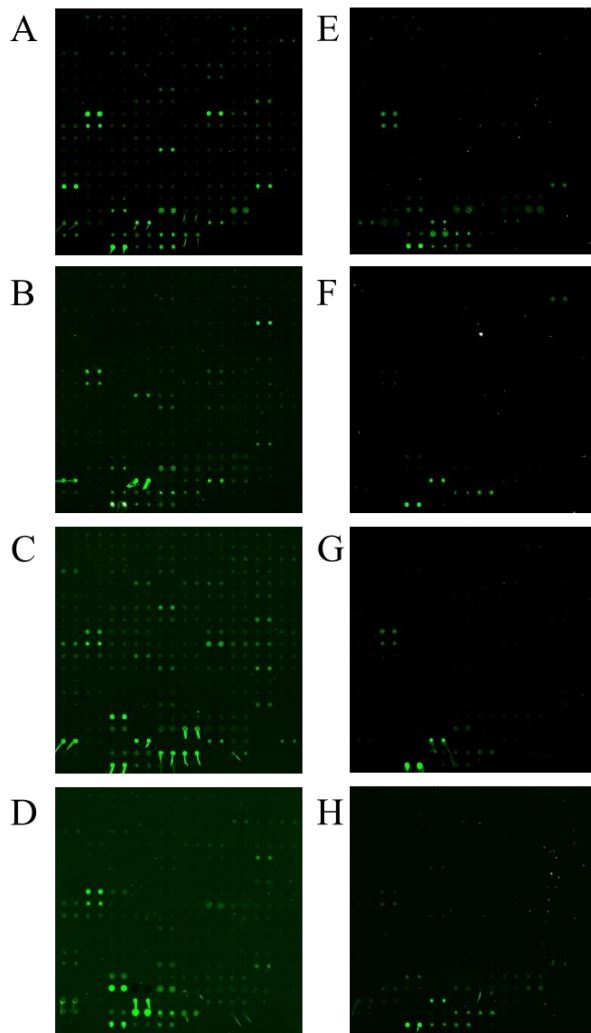
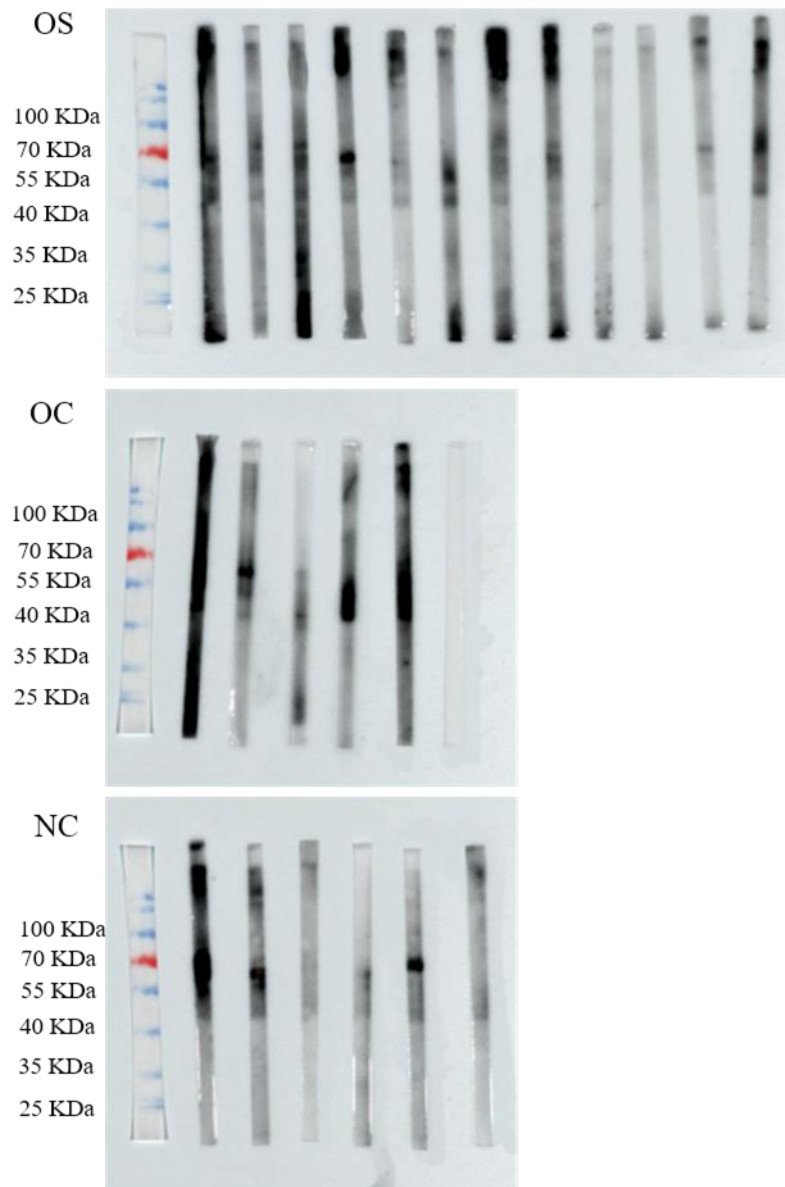


Supplementary materials



Supplementary Figure 1 532 nm channel picture of focused protein microarray of the subject. A-D: Were the 532 nm channel picture of four cases of osteosarcoma reacted with the focused protein microarray; E-H: Were the 532 nm channel picture of four cases of normal human sera reacted with the focused protein microarray.



Supplementary Figure 2 Analysis of anti-SRSF2 autoantibody by WB in sera of twelve osteosarcoma, six osteochondroma, and six normal controls.

**Supplementary Table 1 Area under receiver operator characteristic curve for
154 anti-TAA autoantibodies in the cohort for focused protein microarray**

Autoantibodies	AUC	SE	<i>P</i> value	95% confidence interval	
				Lower bound	Upper bound
TP53	0.581	0.070	0.240	0.443	0.719
HRAS	0.425	0.071	0.275	0.286	0.564
GNAS	0.470	0.071	0.664	0.331	0.610
BRCA2	0.436	0.068	0.351	0.302	0.570
CEBPA	0.496	0.069	0.949	0.360	0.631
FGFR3	0.507	0.070	0.924	0.370	0.643
PTCH1	0.479	0.072	0.759	0.337	0.621
MET	0.492	0.073	0.907	0.349	0.635
HIST1H3B	0.544	0.070	0.518	0.407	0.682
MED12	0.536	0.072	0.604	0.394	0.677
TSHR	0.561	0.069	0.374	0.427	0.696
GNAS	0.568	0.072	0.325	0.427	0.708
GATA3	0.528	0.073	0.687	0.385	0.670
GATA1	0.426	0.067	0.280	0.293	0.558
NCOR1	0.519	0.070	0.783	0.381	0.656
MSH6	0.529	0.071	0.672	0.390	0.668
CIP2A/p90	0.526	0.071	0.703	0.388	0.664
CASP8	0.468	0.070	0.641	0.330	0.605
ERBB2	0.517	0.069	0.808	0.382	0.652
FGFR2	0.570	0.072	0.309	0.429	0.711
PTCH1	0.481	0.070	0.783	0.344	0.619

WT1	0.431	0.074	0.320	0.287	0.576
CASP8	0.513	0.071	0.849	0.374	0.652
RUNX1	0.428	0.069	0.294	0.293	0.563
MPL	0.482	0.070	0.791	0.344	0.620
TSC1	0.582	0.069	0.236	0.447	0.716
SOCS1	0.520	0.070	0.775	0.382	0.657
CDKN2A	0.543	0.070	0.532	0.406	0.680
JAK1	0.496	0.071	0.958	0.357	0.635
JAK3	0.526	0.070	0.703	0.390	0.662
ALK	0.561	0.069	0.374	0.427	0.696
ERBB2	0.468	0.068	0.641	0.335	0.601
CSF1R	0.550	0.069	0.471	0.415	0.684
c-Myc	0.519	0.071	0.783	0.379	0.659
CRLF2	0.479	0.071	0.759	0.339	0.618
RET	0.523	0.072	0.743	0.382	0.663
RalA	0.472	0.072	0.687	0.331	0.614
NFE2L2	0.386	0.067	0.096	0.254	0.517
IMP2/p62	0.490	0.073	0.882	0.348	0.632
NRAS	0.461	0.073	0.575	0.318	0.604
YWHAZ	0.481	0.073	0.783	0.339	0.623
MYD88	0.415	0.071	0.219	0.277	0.554
ACVR1B	0.514	0.072	0.841	0.373	0.655
MLH1	0.555	0.072	0.421	0.415	0.696
NF2	0.536	0.073	0.604	0.393	0.678
TRAF7	0.480	0.073	0.767	0.337	0.623

APC	0.544	0.070	0.518	0.406	0.683
H3F3A	0.591	0.073	0.186	0.448	0.734
NKX2-1	0.530	0.071	0.664	0.391	0.669
MDM2	0.421	0.070	0.253	0.283	0.559
FBXW7	0.593	0.067	0.175	0.463	0.724
SMO	0.577	0.071	0.262	0.437	0.717
GATA3	0.526	0.073	0.711	0.383	0.668
KLF4	0.542	0.073	0.539	0.399	0.685
EZH2	0.612	0.068	0.103	0.479	0.745
SPOP	0.442	0.067	0.397	0.310	0.574
RB1	0.563	0.071	0.362	0.423	0.702
RNF43	0.582	0.070	0.231	0.445	0.720
KIT	0.510	0.070	0.882	0.372	0.648
EGFR	0.553	0.070	0.440	0.416	0.690
SRSF2	0.698	0.066	0.004	0.568	0.828
GATA1	0.532	0.069	0.641	0.396	0.668
CDKN2C	0.467	0.070	0.634	0.330	0.604
CDC73	0.544	0.072	0.525	0.402	0.686
STAG2	0.422	0.071	0.257	0.283	0.561
MDM2	0.570	0.073	0.309	0.428	0.712
SKP2	0.573	0.075	0.290	0.427	0.719
PIK3R1	0.450	0.069	0.465	0.314	0.585
DAXX	0.484	0.073	0.816	0.342	0.626
PAX5	0.523	0.071	0.743	0.383	0.663
ASXL1	0.579	0.072	0.253	0.437	0.720

GNAQ	0.527	0.073	0.695	0.383	0.671
CTNNB1	0.441	0.070	0.391	0.304	0.577
PIK3R1	0.515	0.071	0.832	0.376	0.653
B2M	0.357	0.068	0.038	0.224	0.490
IDH2	0.488	0.072	0.865	0.348	0.629
IMP3/Koc	0.509	0.070	0.899	0.372	0.646
Survivin	0.534	0.074	0.626	0.389	0.678
AKT1	0.436	0.069	0.351	0.300	0.572
IMP1	0.529	0.070	0.672	0.392	0.666
PHF6	0.566	0.073	0.335	0.422	0.710
Survivin	0.463	0.072	0.589	0.322	0.604
CCND1	0.540	0.071	0.560	0.402	0.678
PTEN	0.590	0.072	0.193	0.449	0.730
PTEN	0.622	0.070	0.075	0.486	0.759
DNMT3A	0.390	0.070	0.110	0.253	0.527
RBM39	0.515	0.070	0.824	0.377	0.653
GNAS	0.460	0.070	0.560	0.322	0.598
ARID2	0.458	0.072	0.546	0.318	0.599
DH1	0.599	0.067	0.150	0.468	0.730
MYCN	0.576	0.075	0.271	0.428	0.723
MAP2K4	0.558	0.072	0.403	0.416	0.699
FOXL2	0.397	0.072	0.135	0.257	0.538
TET2 (frag)	0.536	0.073	0.604	0.393	0.679
NPM1	0.486	0.069	0.841	0.351	0.621
HRAS	0.458	0.070	0.539	0.320	0.595

PBRM1 (frag)	0.607	0.075	0.120	0.460	0.755
EGFR	0.421	0.071	0.253	0.281	0.561
PRDM1	0.472	0.068	0.680	0.339	0.604
Cyclin B1	0.555	0.071	0.427	0.416	0.693
SMARCA4	0.585	0.070	0.215	0.448	0.722
KDM5C	0.526	0.069	0.703	0.391	0.662
NCOA3	0.479	0.068	0.759	0.345	0.613
BRAF	0.542	0.071	0.546	0.403	0.680
KDM6A	0.607	0.068	0.120	0.474	0.740
HNF1A	0.512	0.078	0.865	0.360	0.664
PDGFRA	0.534	0.070	0.619	0.398	0.671
TNFAIP3	0.540	0.069	0.560	0.405	0.675
PRDM1	0.520	0.069	0.767	0.385	0.656
SRSF2	0.532	0.071	0.641	0.394	0.670
GNA11	0.768	0.058	<0.001	0.655	0.882
BCOR	0.504	0.070	0.949	0.367	0.642
LMO1	0.462	0.069	0.582	0.327	0.598
SF3B1	0.507	0.071	0.916	0.369	0.646
MDM2	0.528	0.070	0.680	0.391	0.666
PDGFRA	0.608	0.069	0.117	0.473	0.743
EGFR	0.528	0.072	0.680	0.387	0.670
CDH1	0.575	0.076	0.275	0.427	0.723
CBL	0.580	0.072	0.244	0.439	0.721
VHL	0.501	0.070	0.983	0.364	0.639
BCL2	0.382	0.070	0.086	0.245	0.519

ATM	0.550	0.075	0.465	0.404	0.697
BRCA1	0.549	0.076	0.478	0.400	0.697
MSH2	0.526	0.073	0.703	0.384	0.669
GATA2	0.522	0.073	0.751	0.379	0.665
PRDM1	0.497	0.070	0.966	0.360	0.634
FGFR2	0.608	0.070	0.117	0.471	0.745
FGFR2	0.576	0.073	0.271	0.433	0.719
KRAS	0.484	0.074	0.816	0.340	0.628
DNMT3A	0.575	0.071	0.275	0.436	0.714
PIK3CA	0.641	0.068	0.041	0.507	0.774
MDM4	0.415	0.067	0.219	0.284	0.547
SETBP1	0.582	0.074	0.231	0.438	0.727
GNAS	0.495	0.071	0.941	0.356	0.634
SOX9	0.459	0.069	0.553	0.324	0.595
BAP1	0.445	0.068	0.427	0.312	0.579
SMARCB1	0.487	0.073	0.849	0.344	0.629
JAK2	0.559	0.072	0.391	0.418	0.700
SMAD4	0.458	0.069	0.539	0.322	0.594
DNMT3A	0.397	0.067	0.133	0.265	0.528
KLF4	0.583	0.071	0.227	0.444	0.722
PPP2R1A	0.485	0.072	0.824	0.344	0.625
SMAD2	0.394	0.070	0.125	0.257	0.532
NF2	0.511	0.070	0.874	0.373	0.649
MEN1	0.526	0.073	0.711	0.382	0.669
MYCL1	0.449	0.070	0.459	0.313	0.585

ATRX	0.506	0.071	0.932	0.366	0.645
U2AF1	0.493	0.069	0.924	0.358	0.629
NPM1	0.542	0.071	0.539	0.404	0.681
FUBP1	0.482	0.074	0.791	0.337	0.626
IKZF1	0.531	0.072	0.657	0.390	0.671
KRAS	0.523	0.071	0.735	0.385	0.662
PTPN11	0.579	0.070	0.253	0.441	0.716
PDGFRA	0.539	0.072	0.567	0.399	0.680

AUC: Area under the receiver operating characteristic curve.