

Primary antibodies

Antibody	Catalog no.	Source	Dilution
53BP1	A300-272A	Bethyl laboratories	4 µg/mL
γH2AX	05-636	Millipore	10 µg/mL
p21	2947S	Cell signaling	0.5 µg/mL
Active β-catenin	8814S	Cell signaling	0.5 µg/mL
sFRP2 monoclonal	MAB6838	R&D systems	1 µg/mL
sFRP2 polyclonal	ab137560	Abcam	0.96 µg/mL
Ape1	NB100-101	Novus Biologicals	0.1 µg/mL
MITF	M3621	Dako	0.625 µg/mL
SOD3	sc-67088	Santa Cruz	0.4 µg/mL
PRDX6	ab59543	Abcam	1:1000
HSP90	4877S	Cell signaling	1:4000
β-tubulin	2146S	Cell Signaling	0.5 µg/mL
8-oxo-dG	4354-MC-050	Trevigen	2.5 µg/mL
mCherry	NBP2-25157	Novus Biologicals	2 µg/mL
CD31	ab28364	Abcam	1:50
SMA	ab97375	Abcam	1 µg/mL
Ki67	VP-RM04	Vector Labs	1:100

shRNA infection

All shRNA was obtained from the TRC shRNA library available through the Molecular Screening Facility at The Wistar Institute. Clones used were:

Proteins targeted	Clone ID	Sequence
CTNNB1	TRCN0000003845	GCTTGGAATGAGACTGCTGAT
Ape1	TRCN0000011214	GCCGGGTGATTGTGGCTGAAT
Ape1	TRCN0000007958	CAGAGAAATCTGCATTCTATT
Ape1	TRCN0000007959	GCCTGGACTCTCTCATCAATA
Ape1	TRCN0000007960	CCACTCTCTGTTACCTGCATT
Ape1	TRCN0000007961	CCTGGATTAAGAAGAAAGGAT
SOD3	TRCN0000049073	GTCGTCCTCTTCCGGCAGCTT
SOD3	TRCN0000049074	GATCCGAGACATGTACGCCAA

Patient data.

Patient samples and data were collected under IRB approval at the various institutions and provided to the Wistar as de-identified patient samples (sections of paraffin embedded tissue, serum) or patient data. De-identified patient samples and data were collected under IRB exemption approval for protocol #EX21205258-1. Statistics were performed on the following patients, as described in the next section.

Age	Gender	Response	RECIST	Hospital of Origin
66	M	PD	-12.82	Essen
71	F	SD	13.43	Essen
70	F	PR	-42.57	Essen
71	M	SD	-11.49	Essen
68	M	PR	-58.13	Essen
44	F	PR	-72.73	Essen
45	M	PR	-33.60	Essen
49	F	PR	-52.94	Essen
56	F	SD	-2.17	Essen
24	F	PD	32.14	Essen
56	M	SD	-12.12	Essen
31	M	PR	-32.43	Essen
58	M	PD	4.00	Essen
47	F	PR	-55.56	Essen
79	M	CR	-100.00	Essen
43	M	PR	-36.04	Essen
27	M	PR	-50.00	Essen
60	M	PD	-50.00	Essen
69	M	PR	-76.47	Essen
29	F	PD	0.00	Essen
67	M	PD	92.31	Essen
78	F	PD	48.15	Essen
68	M	SD	17.50	Essen
47	M	PR	-33.33	Essen
61	M	PR	-48.33	Essen
77	M	SD	1.96	Essen
75	M	PR	-38.46	Essen
50	F	PR	-57.14	Essen
70	F	PD	-8.16	Essen
43	M	PD	20.00	Essen
78	M	SD	-16.00	Essen
66	M	PD	19.64	Essen
77	M	SD	-11.11	Essen
58	M	PR	-50.00	Essen

45	M	PR	-33.33	Essen
80	M	PR	-58.00	UCLA/Vanderbilt
66	M	PR	-68.00	UCLA/Vanderbilt
53	F	PR	-48.00	UCLA/Vanderbilt
84	M	SD	-10.00	UCLA/Vanderbilt
52	F	PR	-54.00	UCLA/Vanderbilt
65	M	SD	-17.00	UCLA/Vanderbilt
45	M	PR	-93.60	UCLA/Vanderbilt
50	F	PR	-69.00	UCLA/Vanderbilt
52	M	PR	-40.00	UCLA/Vanderbilt
30	M	SD	-14.00	UCLA/Vanderbilt
29	M	CR	-100.00	UCLA/Vanderbilt
46	F	PR	-31.00	UCLA/Vanderbilt
59	M	PR	-64.00	UCLA/Vanderbilt
83	M	SD	5.00	UCLA/Vanderbilt
62	M	PR	-47.00	UCLA/Vanderbilt
69	F	PR	-70.00	UCLA/Vanderbilt
60	M	PR	-57.00	UCLA/Vanderbilt
34	.	PR	-100.00	MIA
75	.	SD	-23.00	MIA
50	.	CR	-100.00	MIA
50	.	PR	-69.00	MIA
70	.	PR	-72.80	MIA
48	.	SD	-67.00	MIA
65	.	SD	-25.00	MIA
78	.	SD	-17.30	MIA
83	.	PR	-38.00	MIA
49	.	PR	-48.80	MIA
65	.	SD	-17.00	MIA
67	.	PR	-44.00	MIA
62	.	PR	-59.00	MIA
53	.	PR	-48.00	MIA
40	.	PR	-60.00	MIA
68	.	SD	-11.00	MIA
39	.	PR	-57.00	MIA
32	.	PR	-61.00	MIA
40	.	PR	-90.50	MIA
72	.	PR	-63.00	MIA
68	.	PR	-59.00	MIA
52	.	PR	-54.00	MIA
76	.	PR	-32.70	MIA
69	.	PR	-68.00	MIA
51	.	PR	-62.00	MIA
40	.	PR	-31.00	MIA

70	.	SD	-25.00	MIA
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Statistical Analysis of Patient Data.

Summary for perct_response by age_over65

N	age	mean	sd	se (mean)	p25	p50	p75
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47	<=65	-47.47846	29.23829	4.264843	-62	-50	-33.33333
34	>65	-25.61848	38.78849	6.65217	-58.125	-20.15	-10
-----+-----							

81	Total	-38.30266	35.07168	3.896853	-60	-44	-16
-----+-----							

Two-sample Wilcoxon rank-sum (Mann-Whitney) test

age	obs	rank sum	expected
-----+-----			
<=65	47	1665.5	1927
>65	34	1655.5	1394
-----+-----			
combined	81	3321	3321

P = 0.0123

Spearman correlation between perct_response and age

N = 81

Spearman's r = 0.2408

P = 0.0303