Supplemental Table 1 - TCGA analysis

Gene	Tumor type	tp53 WT (n)	tp53 mutant (n)	p-value	q-value	Significance
ERAP1	AML	148	14	8.90E-06	5.10E-04	***
	Head&Neck	72	207	5.60E-05	7.80E-04	***
	GBM	121	33	0.11	0.69	ns
	Stomach	141	117	2.60E-04	4.60E-03	***
	Lung	123	107	2.60E-03	0.02	**
	Prostate	270	20	0.06	0.3	ns
	Liver	249	111	0.05	0.11	ns
	Bladder	212	196	0.03	0.08	*
	ER+ Br	284	98	0.09	0.16	ns
	Endometrial	165	67	0.34	0.45	ns
	Low Grade Glioma	257	249	0.34	0.28	ns
	ER- Br	32	142	0.99	0.99	ns
	Melanoma	299	64	0.5	0.68	ns
	Colorectal	133	111	0.3	0.51	ns
TAP1	GBM	121	33	0.07	0.65	ns
	Low Grade Glioma	257	249	2.10E-04	5.05E-04	***
	Head&Neck	72	207	0.47	0.61	ns
	Prostate	270	20	0.68	0.86	ns
	Melanoma	299	64	0.87	0.93	ns
	Stomach	141	117	0.76	0.85	ns
	Colorectal	133	111	0.56	0.73	ns
	Lung	123	107	0.24	0.43	ns
	Endometrial	165	67	0.26	0.37	ns
	Liver	249	111	0.01	0.04	*
	Bladder	212	196	0.0009	5.10E-03	***
	AML	148	14	2.10E-06	1.99E-04	***
	ER+ Br	284	98	2.30E-05	1.80E-04	***
	ER- Br	32	142	0.03	0.24	*

ns= non-significant

Supplemental Table 2 - Tumor Lines

	Line	Lab of origin	PDX/cell line	subgroup	P53 Status	Reference
MB	RCMB18	R. Wechsler-Reya	PDX	SHH	mut : R175H	Brun et al., Oncogene, 2014
	ICb984	X-N Li	PDX	SHH	mut : R282W	Zhao et al., NeuroOncology, 2012
	BT-084	T.Milde	PDX	SHH	mut E285K	Unpublished
	MB002	J. Cho	PDX	G3	mut : A161T	Bandopadhayay et al., Clinical Cancer Research, 2014
	Med211	J. Olson	PDX	G3	WT	Girard et al., NeuroOncology, 2015;
	RCMB40	R. Wechsler-Reya	PDX	G3	WT	Unpublished
	HDMB03	T.Milde	Cell line	G3	WT	Milde et al., Journal of neuro-oncology, 2012
	ICb1487	X-N Li	PDX	G4	WT	Zhao et al., NeuroOncology, 2012
	DMB006	R. Wechsler-Reya	PDX	G4	WT	Kool et al.,Cancer Cell, 2014
	RCMB56	R. Wechsler-Reya	fresh tumor sample	SHH	mut	Unpublished
	RCMB58	R. Wechsler-Reya	fresh tumor sample	G3	pathway altered : 1 allele P53 loss and MDM4 gain	Unpublished
DIPG	SF 8628	N. Gupta	Human cell line	DIPG	mut	Hashizume et al., Journal of neuro-oncology, 2012
	SU-DIPG	M. Monje	Human cell line	DIPG	WT	Caretti et al., Acta Neuropathologica, 2014
	(PDGF-B; H3.3K27M; p53 loss (Cre)	O. Becher	Mouse cell line	DIPG	p53 deficient	Cordero et al., MCR, 2017
	PDGF-B; H3.3K27M	O. Becher	Mouse cell line	DIPG	WT	Cordero et al., MCR, 2017
AML	MV4-11	ATCC	Human cell line	AML	WT	Kojima et al., Blood, 2011
	MOLM-13	ATCC	Human cell line	AML	WT	Kojima et al., Blood, 2011
	THP1	ATCC	Human cell line	AML	mut	Tsuchiya et al, International Journal of Cancer, 1980
	ML-2	DSMZ	Human cell line	AML	mut	Smardova et al., Oncology Report, 2005
	U937	ATCC	Human cell line	AML	mut	Sundstrom et al., International Journal of Cancer, 1976
	P31	ATCC	Human cell line	AML	mut	Weisberg et al., Molecular Cancer Therapy, 2015
	HL60	ATCC	Human cell line	AML	del	Kojima et al., Blood 2011

Supplemental Table 3 - Antibodies

For Western-Blotting

target	name	species	vendor	Catalog #	dilution used	Reference
TAP1	Tap1 Polyclonal Antibody	rabbit	Bioss Antibodies	bs-2789R	1/500	Stettner et al., Journal of Neuroinflammation, 2014
ERAP1	ARTS1 Polyclonal Antibody	rabbit	ThermoFisher	PA5-36218	1/1000	Tested by the company
MHC-I	Anti-MHC Class I H2 Kb/Db antibody	rabbit	AbCam	ab93364	1/500	Maschalidi *et al.*, *Nat Commun,* 2017
RelA	Human/Mouse RelA/NFkB p65 Antibody	mouse	R&D system	MAB5078	1/500	Ong *et al* .,Cell Death Dis, 2018
RelB	RelB Monoclonal Antibody (F.576.6)	rabbit	ThermoFisher	MA5-14852	1/1000	Tested by the company
Actin	beta-Actin (13E5) Rabbit mAb	rabbit	Cell signaling	4970S	1/1000	Communal *et al* ., Proc. Natl. Acad. Sci., 2002
GAPDH	GAPDH (14C10) Rabbit mAb	rabbit	Cell signaling	2118S	1/2000	Bae, B.I. *et al* ., Proc Natl Acad Sci, 2006
HistoneH3	Histone H3 Antibody	rabbit	Cell signaling	9715S	1/1000	Dai *et al* ., Genes Dev, 2005
secondary rabbit	Anti-rabbit IgG, HRP-linked Antibody		Cell signaling	7074S	1/1000	
secondary mouse	Anti-mouse IgG, HRP-linked Antibody		Cell signaling	7076S	1/1000	

For Flow cytometry

target	name	conjugate	vendor	Catalog #	dilution used	Reference
MHC-I	Anti-MHC Class I H2 Kb/Db antibody	PE	eBioscience	12-5998-81	1/500	Zhu *et al.* , Immunity, 2017
Isotype Ctl for MHC-I	Mouse IgG1 kappa Isotype Control	PE	eBioscience	12-4724-81	1/500	
HLA A/B/C	Anti-human HLA-A,B,C [W6/32]	FITC	Biolegend	311403	1/500	Fuentes *et al* ., PLoS ONE. 2013
Isotype Ctl for HLA A/B/C	Mouse IgG2a, κ Isotype Ctrl Antibody	FITC	Biolegend	400207	1/500	
CD3	CD3 Monoclonal Antibody (17A2)	APC	Biolegend	100221	1/250	Durgeau *et al* ., Nature Communication, 2018
Isotype Ctl for CD3	Rat IgG2b kappa Isotype Control, APC	APC	Biolegend	400623	1/250	
CD8	PE/Cy5 anti-mouse CD8a Antibody	Pe-cy5	Biolegend	100709	1/250	Sharma *et al.* 2018. Cancer Gene Ther
Isotype Ctl for CD8	PE/Cy5 Rat IgG2a, κ Isotype Ctrl Antibody	Pe-cy5	Biolegend	400509	1/250	
B220	CD45R (B220) Monoclonal Antibody (RA3-6B2)	PE-cyanine 7	eBioscience	25-0452-82	1/250	Liu *et al* ., Frontiers in Immunology, 2018
Isotype Ctl for B220	Rat IgG2a kappa Isotype Control	PE-cyanine 7	eBioscience	25-4321-82	1/250	
CD11b	Anti-mouse/human CD11b Antibody (M1/70)	APC	eBioscience	17-0112-8	1/500	Bou Nasser Eddine *et al* ., Oncoimmunology, 2016
Isotype Ctl for CD11b	Rat IgG2b, κ Isotype Ctrl	APC	eBioscience	17-4031-82	1/500	
NK1.1	NK1.1 Monoclonal Antibody (PK136)	PE	eBioscience	12-5941-82	1/200	Teo *et al* ., Nature Communication, 2018
Isotype Ctl for NK1.1	Mouse IgG2a kappa Isotype Control	PE	eBioscience	12-4724-81	1/200	
TNFR2	Mouse TNF RII/TNFRSF1B APC-conjugated Antibody	APC	R&D systems	FAB426A	1/500	Ansa-Addo *et al* ., J. Clin. Invest, 2017
Isotype Ctl for TNFR2	Hamster IgG Allophycocyanin Control Antibody	APC	R&D systems	F0121	1/500	
TNFR1	TNFR1 Monoclonal Antibody (HM104), PE	PE	ThermoFisher	MA5-17899	1/500	Tested by the company
LTβR	PE anti-mouse lymphotoxin beta receptor (LTβR) Antibody	PE	Biolegend	134403	1/500	Liang *et al.*, Autophagy, 2017
Isotype Ctl for LTβR and TNFR1	PE Rat IgG2a, κ Isotype Ctrl Antibody	PE	Biolegend	400507	1/500	
viability dye	7-AAD Staining Solution		BD pharmingen	559925	1/1000	Schmid *et al* ., Cytometry, 1992

For ChIP

target	name	vendor	Catalog #	quantity per IP	Reference
p53	p53 (1C12) Mouse mAb	Cell signaling	2524	7.5µg	Fischer *et al* ., Oncogene, 2019
Isotype Ctl for p53	Normal Rabbit IgG Control	Cell signaling	2729	7.5µg	
RelA	Human/Mouse RelA/NFkB p65 Antibody	R&D system	AF5078	10µg	Guo *et al* ., J. Biol. Chem, 2008
Isotype Ctl for RelA	Normal Sheep IgG Control	R&D system	5-001-A	10µg	
p50	Human / Mouse NFkB1 Antibody	R&D system	AF2697	10µg	Tested by the company
Isotype Ctl for p50	Normal Goat IgG Control	R&D system	AB-108-C	10µg	

Supplemental Table 4 - PCR Primers

PCR primers for p53 sequencing

Exon	PCR product size	PCR conditions	Forward (F) or Reverse (R)	sequence
2	259	- 50 s / 560- 50s / 720-	F	CCAGGGTTGGAAGTGTCTC
			R	GACAAGAGCAGAAAGTCAGTCC
3 - 4	238	56	F	CATGGGACTGACTTTCTGCTC
			R	CTTCATCTGGACCTGGGTCT
4	264	56	F	GGACGATATTGAACAATGGTTC
			R	ATGGAAGCCAGCCCCTCAG
5	294	60	F	GCTGCCGTCTTCCAGTTGCT
			R	CCAGCCCTGTCGTCTCTCCA
6	199	56	F	GGCCTCTGATTCCTCACTGA
			R	GCCACTGACAACCACCCTTA
7	196	56	F	TGCCACAGGTCTCCCCAAGG
			R	AGTGTGCAGGGTGGCAAGTG
8	225	56	F	CCTTACTGCCTCTTGCTTCT
			R	ATAACTGCACCCTTGGTCTC
9	152	56	F	GCCTCAGATTCACTTTTATCACC
			R	CTTTCCACTTGATAAGAGGTCC
10	236	60	F	TGATCCGTCATAAAGTCAAACAA
			R	GGAGTAGGGCCAGAAGGG
11	256	56	F	GGCACAGACCCTCTCACTCAT
			R	TGCTTCTGACGCACACCTATT

qPCR primers for gene expression

Target	Species	Concentration used	Forward (F) or Reverse (R)	sequence
Erap1	mouse	600nM	F	TGGCATGTTCCACTGACATT
			R	TAGCCATTCATTCCCACGTT
Erap2	mouse	600nM	F	GGCTATCGATGTCCAGGCTA
			R	CTCAAAACAGGGGAAGTCCA
ERAP1	Human	600nM	F	GCTGCTAAGGGACCTCATTG
			R	TCTGTACGCACGGCTGATAG
Tap1	mouse	600nM	F	GTTCATGTTTTGGGGGTCAC
			R	TGCGTGGACTTTGCTAGAGA
Tap2	mouse	600nM	F	AGTCATACGGAGGGTGATGG
			R	CCTGGTACAGCAGGAAGGAG
TAP1	Human	600nM	F	TCTCACCATAGCCAGTGCAG
			R	TGGAAAAACTCCGTCTCCTG
Actin	Human/mouse	300nM	F	CCGAGCGTGGCTACAGCTTC
			R	ACCTGGCCGTCAGGCAGCTC
m-MHC I H2K(b) F	mouse	600nM	F	GCTGGTGAAGCAGAGAGACTCAG
			R	GGTGACTTTATCTTCAGGTCTGCT
m-MHC I H2D(b) F	mouse	600nM	F	AGTGGTGCTGCAGAGCATTACAA
			R	GGTGACTTCACCTTTAGATCTGGG
Inos (Nos2)	mouse	600nM	F	TTCTGTGCTGTCCCAGTGAG
			R	TGAAGAAAACCCCTTGTGCT
Ido1	mouse	600nM	F	TGGGCAGCTTTTCAACTTCT
			R	ATGAAGATGTGGGCTTTGCT
Tgfb1	mouse	600nM	F	AAGTTGGCATGGTAGCCCTT
			R	GCCCTGGATACCAACTATTGC
Il10	mouse	600nM	F	TGTCAAATTCATTCATGGCCT
			R	ATCGATTTCTCCCCTGTGAA
Arg1	mouse	600nM	F	TTTTTCCAGCAGACCAGCTT
			R	AGAGATTATCGGAGCGCCTT
Ctla4	mouse	600nM	F	CACTGAAGGTTGGGTCACCT
			R	GCCTTCTAGGACTTGGCCTT
Cd274 (PD-L1)	mouse	600nM	F	GGAACCTGAGGGAGAGAACC
			R	AAGACGACTGATGGGCAACT
Cd80 (B7-1)	mouse	600nM	F	CTCTTTGTGCTGCTGATTCG
			R	GGAGAGTTGTAACGGCAAGG
Cd86 (B7-2)	mouse	600nM	F	CCTCGGTGCTCAACAGGTAT
			R	TTTCCCTCCTTCCACACAAG
Tnfsf18 (GITRL)	mouse	600nM	F	GTCATGTGCCATTTTGAGGA
			R	ATGCTGCTCTGTTCTTTGGG
Cd40	mouse	600nM	F	GCCATCGTGGAGGTACTGTT
			R	CTGCATGGTGTCTTTGCCT
Tnfsf4 (OX-40L)	mouse	600nM	F	CTTTGGATTGGAGGGTCCTT
			R	GGATCAAGGCCAAGATTCAA
Tnfsf9 (CD137L)	mouse	600nM	F	GGCTGTGCCAGTTCAGAGTT
			R	AGACCAGGTCACCCCTGTTT
Il2ra (CD25)	mouse	600nM	F	CAGTTTAGGATGGTGCCGTT
			R	CTTGCTGATGTTGGGGTTTC

qPCR primers for ChIP

IP type	Target	Species	Concentration used	binding site	Forward (F) or Reverse (R)	sequence
p53	**Erap1**	mouse	600nM	promoter	F	TTGCAAAAACAAGCATTGAA
					R	TGCTTAGGCCTAGTTCTCAGTG
				3'UTR	F	TCCACGATCTGTCCTTTGAA
					R	AGGGCAGCCACATTCATTAG
	Tap1	mouse	600nM	promoter	F	TGTTACTGAACAAGGGACACAG
					R	TTGTGCCCTACCTGAAGGAT
				3'UTR	F	TTTATTTCCTGGGGCTCTCAT
					R	CTCAGCGAGGAAGAGAAGGA
	ERAP1	Human	600nM	promoter	F	GGACCGAAAGTGAAAGTGGA
					R	GTTTACCCTTTCCCCAGCTC
				3'UTR	F	AAGTCCACCAAGCCTAGACG
					R	TTGCCACGACAGAGTACTGG
	TAP1	Human	600nM	promoter	F	GGGGGTCGTCTAGAGTGTC
					R	CCAGAGTGAAAGCGAAAGC
				3'UTR	F	CATCAGCCCTGGCTCTAAAC
					R	ACCTCCTTTCCAAGCTCCTC
RelA or p50	**Erap1**	mouse	600nM	promoter	F	GCCTAAGCAAACTGGGGAAC
					R	GGTGAACATGCAGCACTCCT
				3'UTR	F	TCCACGATCTGTCCTTTGAA
					R	AGGGCAGCCACATTCATTAG
	Tap1	mouse	600nM	promoter	F	TAGCCAGTAACCCCAACTGC
					R	GGTGAGAAGGTGCGTTCTTT
				3'UTR	F	TTTATTTCCTGGGGCTCTCAT
					R	CTCAGCGAGGAAGAGAAGGA