

Supplementary Materials and Methods:

Antibody list

Antibodies	source	identifier	Usage	Working dilution
Anti-human TLX(B-10)	Santa Cruz	#sc-133843	IHC/IF	1:1400
Anti-human PD-L1(SP142)	Roche	#07309554001	IHC	Ready-to-use
Anti-human CD8(SP16)	ZSGB-BIO	#ZA-0508	IHC	Ready-to-use
Anti-human CD163(10D6)	ZSGB-BIO	#ZM-0428	IHC	Ready-to-use
Anti-human PD-L1(E1L3N)	Cell Signaling	#13684	IF	1:300
Anti-human CD8(C8/144B)	Cell Signaling	#70306	IF	1:50
Anti-human CD163(D6U1J)	Cell Signaling	#93498	IF	1:100
Anti-human PD-1(EH33)	Cell Signaling	#43248	IF	1:50
Anti-human TLX(H6506)	R&D SYSTEMS	#PP-H6506-00	WB	1:1000
Anti-human PD-L1(E1L3N)	Cell Signaling	#13684	IF	1:400
Anti-human PD-L1(28-8)	Abcam	#ab205921	WB	1:100
Anti-mouse CD45(30-F11) FITC	Biolegend	# 103108	FCM	Ready-to-use
Anti-mouse CD45(30-F11) V450	BD Biosciences	# 560501	FCM	Ready-to-use
Anti-mouse CD3(500A2) Alex Flour 700	Biolegend	# 152316	FCM	Ready-to-use
Anti-mouse CD3(17A2) PerCP-Cy5.5	BD Biosciences	#560527	FCM	Ready-to-use
Anti-mouse CD3(500A2) FITC	Biolegend	# 152304	FCM	Ready-to-use
Anti-mouse CD4(RM4-5) BV785	Biolegend	# 100744	FCM	Ready-to-use
Anti-mouse CD8(53-6.7)	Biolegend	#100552	FCM	Ready-to-use

BV605				
Anti-mouse PD-L1(10F.9G2) PE	Biolegend	#124307	FCM	Ready-to-use
Anti-mouse PD-1(29F.1A12) APC	Biolegend	#135209	FCM	Ready-to-use
Anti-mouse CD11b(M1/70) Alex Flour 700	Biolegend	# 10122	FCM	Ready-to-use
Anti-mouse F4-80(BM8) BV785	Biolegend	#123141	FCM	Ready-to-use
Anti-mouse CD206(C068C2) BV421	Biolegend	#141717	FCM	Ready-to-use
Anti-mouse CD86(GL-1) PE	Biolegend	#105007	FCM	Ready-to-use
Anti-mouse CD163(S15049I) APC	Biolegend	#155306	FCM	Ready-to-use
Anti-mouse TLX(B-10)	Santa Cruz	#sc-377240	WB	1:150

Plasmid construction and viral transduction

For generation of shTLX mice glioma cells, shRNAs or the scrambled control RNAs were cloned into pLKO.1-blast vector. The sequences for shRNAs targeting to mice TLX include TLX shRNA-1 (5'-GCAAACAGG TGGCTCTCTACT-3'), TLX shRNA-2 (5'-GCTCCAGGCTTCTCTTTATG-3'), TLX shRNA-3 (5'-GGTTCTGAACTGAGAAGTTTC-3') and scrambled control (5'-GTCTCCGAACGTGTCACGT-3'). sgRNAs targeting mouse TLX include sgRNA1(5'-TACGGGGTCTACGCTTGCGA-3'), sgRNA1(5'-TTGCGGATGGTGGACGTCCG-3') and sgRNA3(5'-GCGGCCAACTCCAGACCGTG-3').

TLX inverse agonist treatment

TLX inverse agonist all-trans retinal (ATRAL; Sigma-Aldrich, St. Louis, MO, USA) was dissolved in DMSO at 100 mg/mL. C57 mice, subcutaneously inoculated with CT2A allografts, were treated with ATRAL (20 mg/kg) or vehicle (3% DMSO) by intraperitoneal injection, and tumours were measured every two days.