

Table S3. Shared antigens with increased signal in response to Sipuleucel-T. Antigens with significant signal increase were identified by serial sample PIWAS analysis between samples at baseline and week 7 for each subject from Arm 2 on Sipuleucel-T and before atezolizumab introduction. Forty antigens with significantly increased signals were shared by at least two subjects.

Accession	Protein_name	Gene_symbol	Membrane_or_secreted	Tissue_expression
A0AVI2	Fer-1-like protein 5	FER1L5	Membrane_only	Expressed_in_prostate_elevated_in_other
O00481	Butyrophilin subfamily 3 member A1	BTN3A1	Membrane_only	Expressed_w_low_specificity
O43298	Zinc finger and BTB domain-containing protein 43	ZBTB43	Intracellular	Expressed_in_prostate_elevated_in_other
O60303	Protein KIAA0556	KIAA0556	Intracellular	Expressed_w_low_specificity
O60341	Lysine-specific histone demethylase 1A	KDM1A	Intracellular	Expressed_w_low_specificity
O75106	Retina-specific copper amine oxidase	AOC2	Intracellular	Expressed_in_prostate_elevated_in_other
O75592	E3 ubiquitin-protein ligase MYCBP2	MYCBP2	Intracellular	Expressed_w_low_specificity
O76039	Cyclin-dependent kinase-like 5	CDKL5	Intracellular	Expressed_in_prostate_elevated_in_other
O95714	E3 ubiquitin-protein ligase HERC2	HERC2	Membrane_only	Expressed_w_low_specificity
P02750	Leucine-rich alpha-2-glycoprotein	LRG1	Secreted_only	Expressed_in_prostate_elevated_in_other
P48039	Melatonin receptor type 1A	MTNR1A	Membrane_only	Not_expressed_in_prostate
P59103	D-amino acid oxidase activator	DAOA	Intracellular	Not_expressed_in_any_tissue
P98095	Fibulin-2	FBLN2	Secreted_only	Expressed_in_prostate_elevated_in_other
Q00587	Cdc42 effector protein 1	CDC42EP1	Intracellular	Expressed_w_low_specificity
Q01973	Inactive tyrosine-protein kinase transmembrane receptor ROR1	ROR1	Membrane_only	Expressed_in_prostate_elevated_in_other
Q13342	Nuclear body protein SP140	SP140	Intracellular	Expressed_in_prostate_elevated_in_other

Q13523	Serine/threonine-protein kinase PRP4 homolog	PRPF4B	Intracellular	Expressed_w_low_specificity
Q5JS13	Ras-specific guanine nucleotide-releasing factor RalGPS1	RALGPS1	Intracellular	Expressed_w_low_specificity
Q5T5Y3	Calmodulin-regulated spectrin-associated protein 1	CAMSAP1	Intracellular	Expressed_w_low_specificity
Q5UE93	Phosphoinositide 3-kinase regulatory subunit 6	PIK3R6	Intracellular	Expressed_in_prostate_elevated_in_other
Q5VTQ0	Tetratricopeptide repeat protein 39B	TTC39B	Membrane_only	Expressed_in_prostate_elevated_in_other
Q5VU43	Myomegalin	PDE4DIP	Intracellular	Expressed_in_prostate_elevated_in_other
Q68CZ2	Tensin-3	TNS3	Intracellular	Expressed_w_low_specificity
Q6V0I7	Protocadherin Fat 4	FAT4	Membrane_only	Expressed_w_low_specificity
Q6ZP82	Coiled-coil domain-containing protein 141	CCDC141	Membrane_only	Expressed_in_prostate_elevated_in_other
Q7KZI7	Serine/threonine-protein kinase MARK2	MARK2	Intracellular	Expressed_w_low_specificity
Q86UK5	Limbin	EVC2	Membrane_only	Expressed_w_low_specificity
Q8IWX7	Protein unc-45 homolog B	UNC45B	Intracellular	Not_expressed_in_prostate
Q8TDY2	RB1-inducible coiled-coil protein 1	RB1CC1	Intracellular	Expressed_w_low_specificity
Q9HBF4	Zinc finger FYVE domain-containing protein 1	ZFYVE1	Intracellular	Expressed_w_low_specificity
Q9NPC6	Myozenin-2	MYOZ2	Intracellular	Not_expressed_in_prostate
Q9P212	1-phosphatidylinositol 4,5-bisphosphate phosphodiesterase epsilon-1	PLCE1	Intracellular	Expressed_in_prostate_elevated_in_other
Q9UBW7	Zinc finger MYM-type protein 2	ZMYM2	Intracellular	Expressed_w_low_specificity
Q9ULC6	Protein-arginine deiminase type-1	PADI1	Intracellular	Not_expressed_in_prostate
Q9UQK1	Protein phosphatase 1 regulatory subunit 3C	PPP1R3C	Intracellular	Expressed_in_prostate_elevated_in_other
Q9Y210	Short transient receptor potential channel 6	TRPC6	Membrane_only	Expressed_in_prostate_elevated_in_other

Q9Y2K2	Serine/threonine-protein kinase SIK3	SIK3	Membrane_only	Expressed_w_low_specificity
Q9Y5A9	YTH domain-containing family protein 2	YTHDF2	Intracellular	Expressed_w_low_specificity
Q9Y5I0	Protocadherin alpha-13	PCDHA13	Membrane_only	Not_expressed_in_prostate
Q9Y6X6	Unconventional myosin-XVI	MYO16	Intracellular	Expressed_in_prostate_elevated_in_other