

Table S1: The prediction outcomes for the nsSNPs effect on ADAM33 protein by MutPred server.

SNP ID	AAS	Probability of deleterious amino acid substitution	Top 5 features
rs773091023	P678L	0.800	Altered Transmembrane protein Loss of Loop Gain of Disulfide linkage at C680
rs764301730	C671R	0.951	Altered Metal binding Altered Transmembrane protein Gain of Catalytic site at C671 Loss of Disulfide linkage at C671
rs751597707	C669G	0.937	Altered Metal binding Altered Transmembrane protein Altered Stability Gain of Disulfide linkage at C671 Gain of Catalytic site at C669
rs368984072	G661R	0.897	Altered Metal binding Altered Transmembrane protein Loss of Disulfide linkage at C663
rs777553708	C637Y	0.943	Altered Transmembrane protein Loss of Disulfide linkage at C637 Altered Metal binding Gain of Strand Altered Disordered interface
rs1334863089	C631F	0.953	Altered Metal binding Altered Transmembrane protein Loss of Disulfide linkage at C631 Gain of Catalytic site at C631
rs754867141	C606S	0.857	Loss of Disulfide linkage at C606 Altered Metal binding Altered Transmembrane protein Altered Stability Gain of O-linked glycosylation at T605 Gain of Catalytic site at C606
rs754867141	C606Y	0.915	Loss of Disulfide linkage at C606 Altered Metal binding Altered Transmembrane protein Gain of Catalytic site at C606
rs915448220	C573Y	0.953	Altered Metal binding Altered Transmembrane protein Gain of Strand Gain of Catalytic site at C573 Loss of Disulfide linkage at C573
rs1432549895	C519R	0.940	Loss of Disulfide linkage at C519 Gain of Catalytic site at C519 Altered Transmembrane protein Altered Metal binding Loss of Pyrrolidone carboxylic acid at Q524
rs1262246273	Y513C	0.898	Altered Transmembrane protein Gain of Intrinsic disorder Loss of Disulfide linkage at C514 Loss of Strand Altered Ordered interface
rs1203116461	P496L	0.668	Altered Transmembrane protein

			Gain of Helix Loss of Strand Loss of Loop Altered Metal binding
rs757567846	D483A	0.839	Altered Metal binding Gain of Disulfide linkage at C482 Altered Transmembrane protein
rs1424975479	C482F	0.900	Altered Metal binding Loss of Disulfide linkage at C482 Altered Transmembrane protein Loss of Pyrrolidone carboxylic acid at Q477
rs1165412077	C482S	0.794	Altered Metal binding Loss of Disulfide linkage at C482 Altered Transmembrane protein Loss of Pyrrolidone carboxylic acid at Q477 Gain of Catalytic site at C482
rs779669835	R476C	0.834	Altered Metal binding Loss of Disulfide linkage at C475 Loss of Pyrrolidone carboxylic acid at Q477 Altered Transmembrane protein
rs748720838	C475G	0.942	Altered Metal binding Loss of Disulfide linkage at C475 Loss of Pyrrolidone carboxylic acid at Q477 Altered Transmembrane protein
rs528261077	G472V	0.828	Altered Metal binding Gain of Disulfide linkage at C475 Gain of Pyrrolidone carboxylic acid at Q477
rs1378161696	C463Y	0.915	Altered Metal binding Loss of Intrinsic disorder Altered Transmembrane protein Gain of Disulfide linkage at C462
rs768654352	G460R	0.856	Gain of Helix Altered Metal binding Gain of Disulfide linkage at C457 Altered Transmembrane protein Gain of Pyrrolidone carboxylic acid at Q456
rs1192357091	C444S	0.852	Altered Metal binding Loss of Disulfide linkage at C444 Altered Transmembrane protein Gain of N-linked glycosylation at N448
rs1192357091	C444Y	0.914	Altered Metal binding Loss of Intrinsic disorder Loss of Disulfide linkage at C444 Altered Transmembrane protein Gain of N-linked glycosylation at N448
rs777252478	C439Y	0.790	Loss of Intrinsic disorder Altered Metal binding Loss of Disulfide linkage at C444
rs1321728445	C431S	0.881	Altered Metal binding Gain of Strand Gain of B-factor Altered Transmembrane protein Loss of Disulfide linkage at C431
rs747255442	G428C	0.813	Altered Metal binding Altered Transmembrane protein

			Gain of Disulfide linkage at C433
rs776082098	C420Y	0.917	Loss of Intrinsic disorder Altered Metal binding Gain of Strand Altered Transmembrane protein Loss of Disulfide linkage at C420
rs751613984	C388Y	0.884	Altered Metal binding Altered Disordered interface Altered Transmembrane protein Loss of Disulfide linkage at C388 Gain of Sulfation at C388
rs1313175203	C371Y	0.963	Altered Metal binding Gain of Strand Loss of Disulfide linkage at C371 Altered Transmembrane protein Gain of Catalytic site at C371
rs764090883	C371R	0.971	Altered Metal binding Gain of Intrinsic disorder Gain of Strand Loss of Disulfide linkage at C371 Altered Transmembrane protein
rs1297854732	C360R	0.882	Altered Metal binding Gain of Strand Loss of Disulfide linkage at C360 Gain of Allosteric site at H355 Loss of Catalytic site at H355
rs1351880201	D219V	0.9355	Altered Ordered interface Altered Metal binding Altered Transmembrane protein Altered Disordered interface Loss of Sulfation at Y215