

Table S1 Validated Gene Mutations in *Chaos3* Mammary Tumors

Sample	Name	Mutation	Effect	Description	Function
15259	Myo1g	G/A	Splice Site	Myosin-Ig	Precursor of minor histocompatibility antigen HA-2
2042	Acsf6	G/T	E>D	Long-chain-fatty-acid--CoA ligase 6	Catalyze formation of acyl-CoA from fatty acids, ATP, and CoA.
2042	Tdrd6	T/C	H>R	Tudor domain-containing protein 6	Required for spermiogenesis, chromatoid body architecture, and regulation of miRNA expression.
2042	Ttn	C/T	D>N	Titin (Connectin)	Cardiac and skeletal muscle protein. Disease Associations: Familial Cardiomyopathy, Tibial muscular dystrophy
2044b	Ttn	C/G	V>L	Titin (Connectin)	

Note: The mutations were validated by Sanger sequencing of PCR products.