

## Possible Mating Combinations

Normal x Normal

		Sire (Genotype)		
		a	a	
Dam (Genotype)	a	aa	aa	} Offspring
	a	aa	aa	

Heterozygote x Normal

		Parent (Genotype)		
		A	a	
Parent (Genotype)	a	Aa	aa	} Offspring
	a	Aa	aa	

Heterozygote x Heterozygote

		Sire (Genotype)		
		A	a	
Dam (Genotype)	A	AA	Aa	} Offspring
	a	Aa	aa	

Homozygote x Normal

		Parent (Genotype)		
		A	A	
Parent (Genotype)	a	Aa	Aa	} Offspring
	a	Aa	Aa	

Homozygote x Heterozygote

		Parent (Genotype)		
		A	A	
Parent (Genotype)	A	AA	AA	} Offspring
	a	Aa	Aa	



Homozygote x Homozygote

		Sire (Genotype)		
		A	A	
Dam (Genotype)	A	AA	AA	} Offspring
	A	AA	AA	

**Using a Punnett Square to predict the genotype ratio of the offspring.**

For example, each offspring, independently, has a 50% chance of inheriting the mutation if one parent is normal and the other parent a heterozygote (upper right box).