

DERMATOMYOSITIS

Results of Various Breeding Combinations for a Dog with **Aabb** Genotype

Red are risk alleles, **blue** are "wild type," normal alleles.

(Punnett squares provided courtesy of the Clark Canine Genetics Research Laboratory, Clemson University.
<http://www.clemsoncaninegenetics.com/>)

		<u>Aabb</u>			
		<u>Ab</u>	<u>Ab</u>	<u>ab</u>	<u>ab</u>
<u>aabb</u>	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>
	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>
	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>
	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>

8 Aabb: 8 aabb

All low risk with homozygous or heterozygous *DLA-DRB1*002:01*

		<u>Aabb</u>			
		<u>Ab</u>	<u>Ab</u>	<u>ab</u>	<u>ab</u>
<u>aaBb</u>	<u>aB</u>	<u>AaBb</u>	<u>AaBb</u>	<u>aaBb</u>	<u>aaBb</u>
	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>
	<u>aB</u>	<u>AaBb</u>	<u>AaBb</u>	<u>aaBb</u>	<u>aaBb</u>
	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>

4 AaBb: 4 Aabb: 4 aaBb: 4 aabb

All low risk with homozygous or heterozygous *DLA-DRB1*002:01*

Aabb

Ab

Ab

ab

ab

aaBB

aB

AaBb

AaBb

aaBb

aaBb

aB

AaBb

AaBb

aaBb

aaBb

aB

AaBb

AaBb

aaBb

aaBb

aB

AaBb

AaBb

aaBb

aaBb

8 AaBb: 8 aaBb

All low risk with homozygous or heterozygous *DLA-DRB1*002:01*

		<u>Aabb</u>			
		<u>Ab</u>	<u>Ab</u>	<u>ab</u>	<u>ab</u>
<u>Aabb</u>	<u>Ab</u>	<u>AAbb</u>	<u>AAbb</u>	<u>Aabb</u>	<u>Aabb</u>
	<u>Ab</u>	<u>AAbb</u>	<u>AAbb</u>	<u>Aabb</u>	<u>Aabb</u>
	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>
	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>

4 AAbb: 8 Aabb: 4 aabb

12 low risk: **Aabb, aabb with homozygous or heterozygous**
DLA-DRB1*002:01

4 moderate risk: **AAbb with homozygous or heterozygous *DLA-DRB1*002:01***

(Each pup has a 75% chance of inheriting a low risk and 25% chance of a moderate risk genotype.)

Aabb

Ab

Ab

ab

ab

AAbb

Ab

AAbb

AAbb

Aabb

Aabb

Ab

AAbb

AAbb

Aabb

Aabb

Ab

AAbb

AAbb

Aabb

Aabb

Ab

AAbb

AAbb

Aabb

Aabb

8 AAbb: 8 Aabb

8 low risk: **Aabb with homozygous or heterozygous *DLA-DRB1*002:01***

8 moderate risk: **AAbb with homozygous or heterozygous *DLA-DRB1*002:01***

(Each pup has a 50% chance of inheriting a low or moderate risk genotype.)

		<u>Aabb</u>			
		<u>Ab</u>	<u>Ab</u>	<u>ab</u>	<u>ab</u>
<u>AaBb</u>	<u>AB</u>	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	<u>Ab</u>	<u>AAbb</u>	<u>AAbb</u>	<u>Aabb</u>	<u>Aabb</u>
	<u>aB</u>	<u>AaBb</u>	<u>AaBb</u>	<u>aaBb</u>	<u>aaBb</u>
	<u>ab</u>	<u>Aabb</u>	<u>Aabb</u>	<u>aabb</u>	<u>aabb</u>

2 AABb: 4 AaBb: 2 AAbb: 4 Aabb: 2 aaBb: 2 aabb

12 low risk: 4 AaBb, 4 Aabb, 2 aaBb, 2 aabb with homozygous or heterozygous *DLA-DRB1*002:01*

2-4 moderate risk: 2 AAbb with homozygous or heterozygous *DLA-DRB1*002:01*
 0-2 AABb with heterozygous *DLA-DRB1*002:01*

0-2 high risk: AABb with homozygous *DLA-DRB1*002:01*

Aabb					
		<u>Ab</u>	<u>Ab</u>	<u>ab</u>	<u>ab</u>
AaBB	<u>AB</u>	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	<u>AB</u>	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	<u>aB</u>	<u>AaBb</u>	<u>AaBb</u>	<u>aaBb</u>	<u>aaBb</u>
	<u>aB</u>	<u>AaBb</u>	<u>AaBb</u>	<u>aaBb</u>	<u>aaBb</u>

4 AABb: 8 AaBb: 4 aaBb

12 low risk: 8 AaBb, 4 aaBb with homozygous or heterozygous ***DLA-DRB1*002:01***

0-4 moderate risk: AABb with heterozygous ***DLA-DRB1*002:01***

0-4 high risk: AABb with homozygous ***DLA-DRB1*002:01***

(Each pup has a 75% chance of inheriting a low & 25% chance of moderate or high risk genotype.)

		<u>Aabb</u>			
		<u>Ab</u>	<u>Ab</u>	<u>ab</u>	<u>ab</u>
<u>AABb</u>	<u>AB</u>	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	<u>Ab</u>	<u>AAbb</u>	<u>AAbb</u>	<u>Aabb</u>	<u>Aabb</u>
	<u>AB</u>	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	<u>Ab</u>	<u>AAbb</u>	<u>AAbb</u>	<u>Aabb</u>	<u>Aabb</u>

4 AABb: 4 AaBb: 4 AAbb: 4 Aabb

8 low risk: 4 AaBb, 4 Aabb with homozygous or heterozygous *DLA-DRB1*002:01*

4-8 moderate risk: 4 AAbb with homozygous or heterozygous *DLA-DRB1*002:01*
 0-4 AABb with heterozygous *DLA-DRB1*002:01*

0-4 high risk: AABb with homozygous *DLA-DRB1*002:01*

		Aabb			
		<u>Ab</u>	<u>Ab</u>	<u>ab</u>	<u>ab</u>
AABB	AB	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	AB	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	AB	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	AB	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
		8 <u>AABb</u>: 8 <u>AaBb</u>			

8 low risk: **AaBb with homozygous or heterozygous *DLA-DRB1*002:01***

0-8 moderate risk: **AABb with heterozygous *DLA-DRB1*002:01***

0-8 high risk: **AABb with homozygous *DLA-DRB1*002:01***

(Each pup has a 50% chance of inheriting a low risk and 50% moderate or high risk genotype.)