

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/>

AABb

AB

Ab

AB

Ab

ab

AaBb

Aabb

AaBb

Aabb

ab

AaBb

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

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

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*

AABb

AB **Ab** **AB** **Ab**

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>

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

(Each pup has a 50% chance of inheriting low risk & 50% chance 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>	AABB	<u>AABb</u>	AABB	<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: 2 AaBB: 4 AaBb: 2 Aabb

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

2-8 moderate risk: 2 AAbb with homozygous or heterozygous *DLA-DRB1*002:01*
0-4 AABb, 0-2 AaBB with heterozygous *DLA-DRB1*002:01*

2-8 high risk: 2 AABB with homozygous or heterozygous *DLA-DRB1*002:01*
0-4 AABb, 0-2 AaBB with homozygous *DLA-DRB1*002:01*

		<u>AABb</u>			
		AB	Ab	AB	Ab
<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 <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***

<u>AABb</u>					
		AB	Ab	AB	Ab
<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>
	Ab	<u>AABb</u>	<u>AAbb</u>	<u>AABb</u>	<u>AAbb</u>

8 AABb: 8 AAbb

8-16 moderate risk: 8 AAbb with homozygous or heterozygous *DLA-DRB1*002:01*

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

0-8 high risk: AABb with homozygous *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

4 **AABB**: 4 **AaBB**: 4 **AABb**: 4 **AaBb**

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

0-8 moderate risk: 0-4 **AABb**, 0-4 **AaBB** with heterozygous *DLA-DRB1*002:01*

4-12 high risk: 4 **AABB** with homozygous or heterozygous *DLA-DRB1*002:01*

0-4 **AABb**, 0-4 **AaBB** with homozygous *DLA-DRB1*002:01*

		<u>AABb</u>			
		AB	Ab	AB	Ab
<u>AABb</u>	AB	AABB	<u>AABb</u>	AABB	<u>AABb</u>
	Ab	<u>AABb</u>	<u>AAbb</u>	<u>AABb</u>	<u>AAbb</u>
	AB	AABB	<u>AABb</u>	AABB	<u>AABb</u>
	Ab	<u>AABb</u>	<u>AAbb</u>	<u>AABb</u>	<u>AAbb</u>

4 AABB: 8 AABb: 4 AAbb

4-12 moderate risk: 4 AAbb with homozygous or heterozygous *DLA-DRB1*002:01*

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

4-12 high risk: 4 AABB with homozygous or heterozygous *DLA-DRB1*002:01*

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

		AABb			
		AB	Ab	AB	Ab
AABB	AB	AABB	<u>AABb</u>	AABB	<u>AABb</u>
	AB	AABB	<u>AABb</u>	AABB	<u>AABb</u>
	AB	AABB	<u>AABb</u>	AABB	<u>AABb</u>
	AB	AABB	<u>AABb</u>	AABB	<u>AABb</u>
		8 AABB: 8 <u>AABb</u>			

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

8-16 high risk: **8 AABB with homozygous or heterozygous *DLA-DRB1*002:01***

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