

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
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: 4 AaBb: 4 aaBB: 4 aaBb

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

0-4 aaBB with heterozygous *DLA-DRB1*002:01*

0-8 moderate risk: 0-4 aaBB with homozygous *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					
		AB	AB	aB	aB
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>

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 risk, 25% 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>
		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 & 50% 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	AABB	<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

6-8 low risk: 4 AaBb, 2 aaBb with homozygous or heterozygous *DLA-DRB1*002:01*

0-2 aaBB with heterozygous *DLA-DRB1*002:01*

0-4 moderate risk: 0-2 aaBB with homozygous *DLA-DRB1*002:01*

0-2 AABb, 0-4 AaBB with heterozygous *DLA-DRB1*002:01*

2-8 high risk: 2 AABB with homozygous or heterozygous *DLA-DRB1*002:01*

0-2 AABb, 0-4 AaBB with homozygous *DLA-DRB1*002:01*

AaBB

		<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

0-8 low risk: aaBB with heterozygous *DLA-DRB1*002:01*

0-16 moderate risk: 0-8 aaBB with homozygous *DLA-DRB1*002:01*

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

0-8 high risk: 0-8 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**: 8 AaBB: 4 aaBB

0-4 low risk: aaBB with heterozygous *DLA-DRB1*002:01*

0-12 moderate risk: 0-4 aaBB with homozygous *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*

		<u>AaBB</u>			
		AB	AB	<u>aB</u>	<u>aB</u>
<u>AABb</u>	AB	AABB	AABB	<u>AaBB</u>	<u>AaBB</u>
	<u>Ab</u>	<u>AABb</u>	<u>AABb</u>	<u>AaBb</u>	<u>AaBb</u>
	AB	AABB	AABB	<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

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*

AaBB					
AB AB <u>aB</u> <u>aB</u>					
AABB	AB	AABB	AABB	<u>AaBB</u>	<u>AaBB</u>
	AB	AABB	AABB	<u>AaBB</u>	<u>AaBB</u>
	AB	AABB	AABB	<u>AaBB</u>	<u>AaBB</u>
	AB	AABB	AABB	<u>AaBB</u>	<u>AaBB</u>

8 AABB: 8 AaBB:

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*