



# Certificate of Breed

OWNER'S NAME: Ginger Suhstede

DOG'S NAME: Sadie

TEST DATE: March 22nd, 2022

OWNER SUPPLIED BREED: Labrador Retriever

REGISTRATION ORGANIZATION: American Kennel Club (AKC)

REGISTRATION NUMBER: SS13006101

This certifies the authenticity of **Sadie's** canine genetic background as determined following careful analysis of more than 200,000 genetic markers.

Welcome to the **Embark** family!

WOLFINESS **0.3% LOW**

MATERNAL HAPLOTYPE **A382**

## LABRADOR RETRIEVER



100.0% Labrador Retriever

Adam Boyko, Ph.D.  
CHIEF SCIENCE OFFICER

Ryan Boyko  
CHIEF EXECUTIVE OFFICER

## Dog Information

**Sadie**  
 NAME  
**Female**  
 SEX  
**Labrador Retriever**  
 GENETIC BREED  
**June 15th, 2019**  
 DATE OF BIRTH  
**American Kennel Club (AKC) SS13006101**  
 REGISTRATION  
**n/a**  
 MICROCHIP

**Ginger Suhrstedt**  
 OWNER NAME  
**Canine Genetic Health Screen**  
 TEST  
**March 22nd, 2022**  
 TEST DATE

## BREED HEALTH TESTS

DISEASE	GENE	GENOTYPE	RESULT	TESTING RECOMMENDED BY
Centronuclear Myopathy, CNM	PTPLA	NN	Clear	
Degenerative Myelopathy, DM	SOD1(A)	GG	Clear	
Exercise-Induced Collapse, EIC	DNM1	GG	Clear	
Hereditary Nasal Parakeratosis, HNPk	SUV39H2	GG	Clear	
Hyperuricosuria and Hyperuricemia or Urolithiasis, HUU	SLC2A9 (Exon 5)	GG	Clear	
Macular Corneal Dystrophy, MCD	CHST6	CC	Clear	
Narcolepsy	HCRT2	AA	Clear	
Progressive Retinal Atrophy, prcd	PRCD Exon 1	GG	Clear	
Pyruvate Kinase Deficiency	PKLR Exon 7 SNP Variant 1	CC	Clear	
Skeletal Dysplasia 2, SD2	COL11A2	GG	Clear	
Achromatopsia	CNGA3 (Exon 7 Deletion)	NN	Clear	
Alexander Disease	GFAP (Exon 4)	GG	Clear	
Canine Elliptocytosis	SPTB Exon 30	CC	Clear	
Congenital Myasthenic Syndrome, CMS	COLQ (Exon 14)	TT	Clear	
Golden Retriever Progressive Retinal Atrophy 2, GR-PRA2	TTC8 Exon 8	NN	Clear	

# DNA Test Report

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**Ginger Suhrstedt**  
 OWNER NAME  
**Canine Genetic Health Screen**  
 TEST  
**March 22nd, 2022**  
 TEST DATE

## BREED HEALTH TESTS

DISEASE	GENE	GENOTYPE	RESULT	TESTING RECOMMENDED BY
Myotubular Myopathy 1, X-linked Myotubular Myopathy, XL-MTM	MTM1 (Exon 7)	CC	Clear	
Progressive Retinal Atrophy, crd4/cord1	RPGRIP1 (Exon 2)	NN	Clear	
Ullrich-like Congenital Muscular Dystrophy	COL6A3	GG	Clear	

## Dog Information

**Sadie**  
NAME

## INBREEDING AND DIVERSITY

Genetic Diversity	RESULT	GENETIC RESULT
Inbreeding		18%
Immune Response 1		High Diversity
Immune Response 2		High Diversity

## Dog Information

Sadie

NAME

## TRAIT TESTS (1/2)

Base Coat Color	RESULT	GENETIC RESULT
Dark or Light Fur <i>E (Extension) Locus</i>	Light colored fur (cream to red)	ee
Dark brown pigment <i>Cocoa</i>	No impact on skin color	NN
Red Pigment Intensity LINKAGE <i>I (Intensity) Loci</i>	Any pigmented fur likely yellow or tan	Intermediate Red Pigmentation
Brown or Black Pigment <i>B (Brown) Locus</i>	Likely black colored nose/feet	BB
Color Dilution <i>D (Dilute) Locus</i>	Dark (non-dilute) skin	DD
Coat Color Modifiers	RESULT	GENETIC RESULT
Hidden Patterning <i>K (Dominant Black) Locus</i>	No impact on coat color	K <sup>B</sup> K <sup>B</sup>
Body Pattern <i>A (Agouti) Locus</i>	No impact on coat pattern	a <sup>t</sup> a <sup>t</sup>
Facial Fur Pattern <i>E (Extension) Locus</i>	No dark fur anywhere	ee
Saddle Tan	No impact on coat pattern	ll
White Spotting <i>S (White Spotting) Locus</i>	Likely to have little to no white in coat	SS
Roan LINKAGE <i>R (Roan) Locus</i>	Likely no impact on coat pattern	rr
Merle <i>M (Merle) Locus</i>	No impact on coat color	mm

## Dog Information

Sadie

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## TRAIT TESTS (2/2)

Other Body Features	RESULT	GENETIC RESULT
Muzzle Length	Likely medium or long muzzle	CC
Tail Length	Likely normal-length tail	CC
Hind Dew Claws	Unlikely to have hind dew claws	CC
Back Muscling & Bulk (Large Breed)	Likely normal muscling	CC
Eye Color LINKAGE	Less likely to have blue eyes	NN

  

Body Size	RESULT	GENETIC RESULT
Body Size 1	Smaller	II
Body Size 2	Larger	GG
Body Size 3	Larger	TT
Body Size 4	Larger	GG
Body Size 5	Larger	CC