

# Orthopedic Foundation for Animals Preliminary (Consultation) Report



A Not-For-Profit  
Organization

ROSIE WALLACE II  
*registered name*

LABRADOR RETRIEVER  
*breed*

*film/test/lab #*

*tattoo/microchip/DNA profile*

2179016  
*application number*

10/06/2020  
*date of report*

SS14304105  
*registration no.*

F  
*sex*

08/26/2019  
*date of birth*

13  
*age at evaluation in months*

KATHY LEWIS  
1175 JONES HILL RD  
MIDDLEBURG PA 17842

LEWISBURG VETERINARY HOSPITAL  
829 FAIRGROUND RD  
LEWISBURG PA 17837

## RADIOGRAPHIC EVALUATION OF PELVIC PHENOTYPE WITH RESPECT TO HIP DYSPLASIA

\* The study must be repeated when the animal is 24 months of age or older to qualify for an OFA number.

### EXCELLENT HIP JOINT CONFORMATION\*

superior hip joint conformation as compared with other individuals of the same breed and age

### GOOD HIP JOINT CONFORMATION\*

well formed hip joint conformation as compared with other individuals of the same breed and age

### FAIR HIP JOINT CONFORMATION\*

minor irregularities of the hip joint conformation as compared with other individuals of the same breed and age

### BORDERLINE HIP JOINT CONFORMATION

marginal hip joint conformation of indeterminate status with respect to hip dysplasia at this time – **Repeat study in six months**

### MILD HIP DYSPLASIA

radiographic evidence of minor dysplastic changes of the hip joints

### MODERATE HIP DYSPLASIA

well defined radiographic evidence of dysplastic changes of the hip joints

### SEVERE HIP DYSPLASIA

radiographic evidence of marked dysplastic changes of the hip joints

## RADIOGRAPHIC FINDINGS

subluxation

remodeling of femoral head/neck

osteoarthritis/degenerative joint disease

shallow acetabula

acetabular rim/edge change

unilateral pathology \_\_\_\_\_ left \_\_\_\_\_ right

transitional vertebra

spondylolysis

Consultation by: \_\_\_\_\_

G.G. KELLER, DVM, MS, DACVR  
CHIEF OF VETERINARY SERVICES

2300 E Nifong Blvd  
Columbia MO 65201

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## RADIOGRAPHIC EVALUATION OF PHENOTYPE WITH RESPECT TO ELBOW DYSPLASIA

\* The study must be repeated when the animal is 24 months of age or older to qualify for an OFA number.

### ELBOW JOINTS – FLEXED LATERAL VIEW

negative for elbow dysplasia \*

L  R

### ELBOW DYSPLASIA

Grade I

L \_\_\_\_\_ R \_\_\_\_\_

Grade II

L \_\_\_\_\_ R \_\_\_\_\_

Grade III

L \_\_\_\_\_ R \_\_\_\_\_

### RADIOGRAPHIC FINDINGS

degenerative joint disease (DJD)  
united anconeal process (UAP)  
fragmented coronoid process (FCP)  
osteochondrosis

L \_\_\_\_\_ R \_\_\_\_\_

L \_\_\_\_\_ R \_\_\_\_\_

L \_\_\_\_\_ R \_\_\_\_\_

L \_\_\_\_\_ R \_\_\_\_\_

Consultation by: \_\_\_\_\_

*Greg Keller DVM*  
G.G. KELLER, DVM, MS, DACVR  
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**“ROSIE”**

**COUNTRYLANES ROSIE WALLACE 11**

**embark**

DNA Test Report

Test Date: September 30th, 2020

embk.me/countrylanesrosiewallace11

## HEALTH REPORT

### How to interpret Rosie's genetic health results:

If Rosie inherited any of the variants that we tested, they will be listed at the top of the Health Report section, along with a description of how to interpret this result. We also include all of the variants that we tested Rosie for that we did not detect the risk variant for.

### A genetic test is not a diagnosis

This genetic test does not diagnose a disease. Please talk to your vet about your dog's genetic results, or if you think that your pet may have a health condition or disease.



**Rosie inherited one variant that you should learn more about.**

**Hereditary Nasal Parakeratosis**



**Breed-Relevant Genetic Conditions**

**15 variants not detected**



**Additional Genetic Conditions**

**176 variants not detected**





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### BREED-RELEVANT CONDITIONS TESTED



Rosie did not have the variants that we tested for, that are relevant to her breed:

- ✔ Congenital Macrothrombocytopenia (TUBB1 Exon 1, Cavalier King Charles Spaniel Variant)
- ✔ Canine Elliptocytosis (SPTB Exon 30)
- ✔ Pyruvate Kinase Deficiency (PKLR Exon 7 Labrador Variant)
- ✔ Progressive Retinal Atrophy, prcd (PRCD Exon 1)
- ✔ Golden Retriever Progressive Retinal Atrophy 2, GR-PRA2 (TTC8)
- ✔ Progressive Retinal Atrophy - crd4/cord1 (RPGRI1)
- ✔ Achromatopsia (CNGA3 Exon 7 Labrador Retriever Variant)
- ✔ Macular Corneal Dystrophy, MCD (CHST6)
- ✔ Hyperuricosuria and Hyperuricemia or Urolithiasis, HUU (SLC2A9)
- ✔ Alexander Disease (GFAP)
- ✔ Narcolepsy (HCRTR2 Intron 6)
- ✔ Exercise-Induced Collapse (DNM1)
- ✔ Myotubular Myopathy 1, X-linked Myotubular Myopathy, XL-MTM (MTM1, Labrador Variant)
- ✔ Congenital Myasthenic Syndrome (COLQ)
- ✔ Skeletal Dysplasia 2, SD2 (COL11A2)



## ADDITIONAL CONDITIONS TESTED



Rosie did not have the variants that we tested for, in the following conditions that the potential effect on dogs with Rosie's breed may not yet be known.

- MDR1 Drug Sensitivity (MDR1)
- P2Y12 Receptor Platelet Disorder (P2Y12)
- Factor IX Deficiency, Hemophilia B (F9 Exon 7, Terrier Variant)
- Factor IX Deficiency, Hemophilia B (F9 Exon 7, Rhodesian Ridgeback Variant)
- Factor VII Deficiency (F7 Exon 5)
- Factor VIII Deficiency, Hemophilia A (F8 Exon 10, Boxer Variant)
- Factor VIII Deficiency, Hemophilia A (F8 Exon 11, Shepherd Variant 1)
- Factor VIII Deficiency, Hemophilia A (F8 Exon 1, Shepherd Variant 2)
- Thrombopathia (RASGRP1 Exon 5, Basset Hound Variant)
- Thrombopathia (RASGRP1 Exon 8)
- Thrombopathia (RASGRP1 Exon 5, American Eskimo Dog Variant)
- Von Willebrand Disease Type III, Type III vWD (VWF Exon 4)
- Von Willebrand Disease Type III, Type III vWD (VWF Exon 7)
- Von Willebrand Disease Type I (VWF)
- Von Willebrand Disease Type II, Type II vWD (VWF)
- Canine Leukocyte Adhesion Deficiency Type I, CLADI (ITGB2)
- Canine Leukocyte Adhesion Deficiency Type III, CLADIII (FERMT3)
- Congenital Macrothrombocytopenia (TUBB1 Exon 1, Cairn and Norfolk Terrier Variant)
- Glanzmann's Thrombasthenia Type I (ITGA2B Exon 12)
- May-Hegglin Anomaly (MYH9)
- Prekallikrein Deficiency (KLKB1 Exon 8)
- Pyruvate Kinase Deficiency (PKLR Exon 5)
- Pyruvate Kinase Deficiency (PKLR Exon 7 Pug Variant)



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### ADDITIONAL CONDITIONS TESTED

- Trapped Neutrophil Syndrome (VPS13B)
- Ligneous Membranitis, LM (PLG)
- Platelet factor X receptor deficiency, Scott Syndrome (TMEM16F)
- Methemoglobinemia CYB5R3
- Congenital Hypothyroidism (TPO, Tenterfield Terrier Variant)
- Congenital Hypothyroidism (TPO, Rat, Toy, Hairless Terrier Variant)
- Complement 3 Deficiency, C3 Deficiency (C3)
- Severe Combined Immunodeficiency (PRKDC)
- Severe Combined Immunodeficiency (RAG1)
- X-linked Severe Combined Immunodeficiency (IL2RG Variant 1)
- X-linked Severe Combined Immunodeficiency (IL2RG Variant 2)
- Progressive Retinal Atrophy, rcd1 (PDE6B Exon 21 Irish Setter Variant)
- Progressive Retinal Atrophy, rcd3 (PDE6A)
- Progressive Retinal Atrophy, CNGA (CNGA1 Exon 9)
- Progressive Retinal Atrophy (CNGB1)
- Progressive Retinal Atrophy (SAG)
- Golden Retriever Progressive Retinal Atrophy 1, GR-PRA1 (SLC4A3)
- Progressive Retinal Atrophy, crd1 (PDE6B)
- X-Linked Progressive Retinal Atrophy 1, XL-PRA1 (RPGR)
- Progressive Retinal Atrophy, PRA3 (FAM161A)
- Collie Eye Anomaly, Choroidal Hypoplasia, CEA (NHEJ1)
- Day blindness, Cone Degeneration, Achromatopsia (CNGB3 Exon 6)
- Achromatopsia (CNGA3 Exon 7 German Shepherd Variant)
- Autosomal Dominant Progressive Retinal Atrophy (RHO)
- Canine Multifocal Retinopathy (BEST1 Exon 2)

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## ADDITIONAL CONDITIONS TESTED

- Canine Multifocal Retinopathy (BEST1 Exon 5)
- Canine Multifocal Retinopathy (BEST1 Exon 10 Deletion)
- Canine Multifocal Retinopathy (BEST1 Exon 10 SNP)
- Glaucoma (ADAMTS10 Exon 9)
- Glaucoma (ADAMTS10 Exon 17)
- Glaucoma (ADAMTS17 Exon 11)
- Glaucoma (ADAMTS17 Exon 2)
- Goniodysgenesis and Glaucoma (OLFM3)
- Hereditary Cataracts, Early-Onset Cataracts, Juvenile Cataracts (HSF4 Exon 9 Shepherd Variant)
- Primary Lens Luxation (ADAMTS17)
- Congenital Stationary Night Blindness (RPE65)
- 2,8-Dihydroxyadenine Urolithiasis, 2,8-DHA Urolithiasis (APRT)
- Cystinuria Type I-A (SLC3A1)
- Cystinuria Type II-A (SLC3A1)
- Cystinuria Type II-B (SLC7A9)
- Polycystic Kidney Disease, PKD (PKD1)
- Primary Hyperoxaluria (AGXT)
- Protein Losing Nephropathy, PLN (NPHS1)
- X-Linked Hereditary Nephropathy, XLHN (COL4A5 Exon 35, Samoyed Variant 2)
- Autosomal Recessive Hereditary Nephropathy, Familial Nephropathy, ARHN (COL4A4 Exon 3)
- Primary Ciliary Dyskinesia, PCD (CCDC39 Exon 3)
- Congenital Keratoconjunctivitis Sicca and Ichthyosiform Dermatitis, Dry Eye Curly Coat Syndrome, CKCSID (FAM83H Exon 5)
- X-linked Ectodermal Dysplasia, Anhidrotic Ectodermal Dysplasia (EDA Intron 8)
- Renal Cystadenocarcinoma and Nodular Dermatofibrosis, RCND (FLCN Exon 7)
- Canine Fucosidosis (FUCA1)

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## ADDITIONAL CONDITIONS TESTED

- Glycogen Storage Disease Type II, Pompe's Disease, GSD II (GAA)
- Glycogen Storage Disease Type IA, Von Gierke Disease, GSD IA (G6PC)
- Glycogen Storage Disease Type IIIA, GSD IIIA (AGL)
- Mucopolysaccharidosis Type I, MPS I (IDUA)
- Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6 Variant 1)
- Mucopolysaccharidosis Type IIIA, Sanfilippo Syndrome Type A, MPS IIIA (SGSH Exon 6 Variant 2)
- Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 5)
- Mucopolysaccharidosis Type VII, Sly Syndrome, MPS VII (GUSB Exon 3)
- Glycogen storage disease Type VII, Phosphofructokinase Deficiency, PFK Deficiency (PFKM Whippet and English Springer Spaniel Variant)
- Glycogen storage disease Type VII, Phosphofructokinase Deficiency, PFK Deficiency (PFKM Wachtelhund Variant)
- Lagotto Storage Disease (ATG4D)
- Neuronal Ceroid Lipofuscinosis 1, NCL 1 (PPT1 Exon 8)
- Neuronal Ceroid Lipofuscinosis 2, NCL 2 (TPP1 Exon 4)
- Neuronal Ceroid Lipofuscinosis 1, Cerebellar Ataxia, NCL4A (ARSG Exon 2)
- Neuronal Ceroid Lipofuscinosis 1, NCL 5 (CLN5 Border Collie Variant)
- Neuronal Ceroid Lipofuscinosis 6, NCL 6 (CLN6 Exon 7)
- Neuronal Ceroid Lipofuscinosis 8, NCL 8 (CLN8 English Setter Variant)
- Neuronal Ceroid Lipofuscinosis (MFSD8)
- Neuronal Ceroid Lipofuscinosis (CLN8 Australian Shepherd Variant)
- Neuronal Ceroid Lipofuscinosis 10, NCL 10 (CTSD Exon 5)
- Neuronal Ceroid Lipofuscinosis (CLN5 Golden Retriever Variant)
- Adult-Onset Neuronal Ceroid Lipofuscinosis (ATP13A2, Tibetan Terrier Variant)
- Late-Onset Neuronal Ceroid Lipofuscinosis (ATP13A2, Australian Cattle Dog Variant)
- GM1 Gangliosidosis (GLB1 Exon 15 Shiba Inu Variant)
- GM1 Gangliosidosis (GLB1 Exon 15 Alaskan Husky Variant)

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## ADDITIONAL CONDITIONS TESTED

- GM1 Gangliosidosis (GLB1 Exon 2)
- GM2 Gangliosidosis (HEXB, Poodle Variant)
- GM2 Gangliosidosis (HEXA)
- Globoid Cell Leukodystrophy, Krabbe disease (GALC Exon 5)
- Autosomal Recessive Amelogenesis Imperfecta, Familial Enamel Hypoplasia (Italian Greyhound Variant)
- Autosomal Recessive Amelogenesis Imperfecta, Familial Enamel Hypoplasia (Parson Russell Terrier Variant)
- Persistent Mullerian Duct Syndrome, PMDS (AMHR2)
- Deafness and Vestibular Syndrome of Dobermans, DVDob, DINGS (MYO7A)
- Shar-Pei Autoinflammatory Disease, SPAID, Shar-Pei Fever (MTBP)
- Alaskan Husky Encephalopathy, Subacute Necrotizing Encephalomyelopathy (SLC19A3)
- Cerebellar Abiotrophy, Neonatal Cerebellar Cortical Degeneration, NCCD (SPTBN2)
- Cerebellar Ataxia, Progressive Early-Onset Cerebellar Ataxia (SEL1L)
- Cerebellar Hypoplasia (VLDLR)
- Spinocerebellar Ataxia, Late-Onset Ataxia, LoSCA (CAPN1)
- Spinocerebellar Ataxia with Myokymia and/or Seizures (KCNJ10)
- Hereditary Ataxia (RAB24)
- Benign Familial Juvenile Epilepsy, Remitting Focal Epilepsy (LGI2)
- Degenerative Myelopathy, DM (SOD1A)
- Fetal-Onset Neonatal Neuroaxonal Dystrophy (MFN2)
- Hypomyelination and Tremors (FNIP2)
- Shaking Puppy Syndrome, X-linked Generalized Tremor Syndrome (PLP)
- Neuroaxonal Dystrophy, NAD (Spanish Water Dog Variant)
- Neuroaxonal Dystrophy, NAD (Rottweiler Variant)
- L-2-Hydroxyglutaricaciduria, L2HGA (L2HGDH)
- Neonatal Encephalopathy with Seizures, NEWS (ATF2)

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- Polyneuropathy, NDRG1 Greyhound Variant (NDRG1 Exon 15)
- Polyneuropathy, NDRG1 Malamute Variant (NDRG1 Exon 4)
- Progressive Neuronal Abiotrophy, Canine Multiple System Degeneration, CMSD (SERAC1 Exon 15)
- Progressive Neuronal Abiotrophy, Canine Multiple System Degeneration, CMSD (SERAC1 Exon 4)
- Juvenile Laryngeal Paralysis and Polyneuropathy, Polyneuropathy with Ocular Abnormalities and Neuronal Vacuolation, POANV (RAB3GAP1, Rottweiler Variant)
- Hereditary Sensory Autonomic Neuropathy, Acral Mutilation Syndrome, AMS (GDNF-AS)
- Juvenile-Onset Polyneuropathy, Leonberger Polyneuropathy 1, LPN1 (LPN1, ARHGEF10)
- Juvenile Myoclonic Epilepsy (DIRAS1)
- Juvenile-Onset Polyneuropathy, Leonberger Polyneuropathy 2, LPN2 (GJA9)
- Spongy Degeneration with Cerebellar Ataxia 1, SDCA1, SeSAME/EAST Syndrome (KCNJ10)
- Spongy Degeneration with Cerebellar Ataxia 2, SDCA2 (ATP1B2)
- Dilated Cardiomyopathy, DCM1 (PDK4)
- Dilated Cardiomyopathy, DCM2 (TTN)
- Long QT Syndrome (KCNQ1)
- Muscular Dystrophy (DMD, Cavalier King Charles Spaniel Variant 1)
- Muscular Dystrophy (DMD Pembroke Welsh Corgi Variant )
- Muscular Dystrophy (DMD Golden Retriever Variant)
- Limb Girdle Muscular Dystrophy (SGCD, Boston Terrier Variant)
- Inherited Myopathy of Great Danes (BIN1)
- Myostatin Deficiency, Bully Whippet Syndrome (MSTN)
- Myotonia Congenita (CLCN1 Exon 7)
- Myotonia Congenita (CLCN1 Exon 23)
- Hypocatalasia, Acatalasemia (CAT)
- Pyruvate Dehydrogenase Deficiency (PDP1)
- Malignant Hyperthermia (RYR1)

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### ADDITIONAL CONDITIONS TESTED

- Imerslund-Grasbeck Syndrome, Selective Cobalamin Malabsorption (CUBN Exon 53)
- Imerslund-Grasbeck Syndrome, Selective Cobalamin Malabsorption (CUBN Exon 8)
- Lunde hund Syndrome (LEPREL1)
- Congenital Myasthenic Syndrome (CHAT)
- Episodic Falling Syndrome (BCAN)
- Paroxysmal Dyskinesia, PxD (PGIN)
- Dystrophic Epidermolysis Bullosa (COL7A1)
- Ectodermal Dysplasia, Skin Fragility Syndrome (PKP1)
- Ichthyosis, Epidermolytic Hyperkeratosis (KRT10)
- Ichthyosis (PNPLA1)
- Ichthyosis (SLC27A4)
- Ichthyosis (NIPAL4)
- Focal Non-Epidermolytic Palmoplantar Keratoderma, Pachyonychia Congenita (KRT16)
- Hereditary Footpad Hyperkeratosis (FAM83G)
- Musladin-Lueke Syndrome (ADAMTSL2)
- Oculocutaneous Albinism, OCA2 (Pekingese Type)
- Bald Thigh Syndrome (IGFBP5)
- Cleft Lip and/or Cleft Palate (ADAMTS20)
- Hereditary Vitamin D-Resistant Rickets (VDR)
- Osteogenesis Imperfecta, Brittle Bone Disease (COL1A2)
- Osteogenesis Imperfecta, Brittle Bone Disease (SERPINH1)
- Osteogenesis Imperfecta, Brittle Bone Disease (COL1A1)
- Osteochondrodysplasia, Skeletal Dwarfism (SLC13A1)
- Craniomandibular Osteopathy, CMO (SLC37A2)
- Chondrodystrophy and Intervertebral Disc Disease, CDDY/IVDD, Type I IVDD (FGF4 retrogene - CFA12)

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**ADDITIONAL CONDITIONS TESTED**

 Chondrodystrophy, Norwegian Elkhound and Karelian Bear Dog Variant (ITGA10)

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## Laboratory Report

<b>Laboratory #:</b>	321875	<b>Call Name:</b>	Rosie
<b>Order #:</b>	144873	<b>Registered Name:</b>	-
<b>Ordered By:</b>	Brittany Pescara	<b>Breed:</b>	Labrador Retriever
<b>Ordered:</b>	Aug. 10, 2022	<b>Sex:</b>	Female
<b>Received:</b>	Sept. 14, 2022	<b>DOB:</b>	Aug. 2019
<b>Reported:</b>	Sept. 22, 2022	<b>Registration #:</b>	-

### Results:

Disease	Gene	Genotype	Interpretation
Retinal Dysplasia/Oculoskeletal Dysplasia 1	COL9A3	WT/WT	Normal (clear)

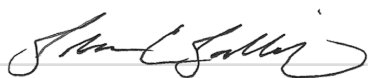
WT, wild type (normal); M, mutant; Y, Y chromosome (male)

### Interpretation:

Molecular genetic analysis was performed for a specific mutation reported to be associated with Retinal Dysplasia/Oculoskeletal Dysplasia 1 in dogs. We identified two normal copies of the DNA sequences in the COL9A3 gene tested. Thus, this dog is not at an increased risk for Retinal Dysplasia/Oculoskeletal Dysplasia 1.

### Recommendations:

No mutations were identified. Thus, this dog is not at an increased risk for the disease caused by or associated with the mutation tested. Because this dog is "clear" of this mutation, this dog will only pass the normal gene on to its offspring. Normal results do not exclude inherited mutations not tested in this gene or other genes that may cause medical problems or may be passed on to offspring. Paw Print Genetics® has genetic counseling available to you at no additional charge to answer any questions about these test results, their implications and potential outcomes in breeding this dog.



**Blake C Ballif, PhD**  
 Laboratory & Scientific Director



**Christina J Ramirez, PhD, DVM, DACVP**  
 Medical Director

Paw Print Genetics® performed the tests listed on this dog. The genes/diseases reported here were selected by the client. Normal results do not exclude inherited mutations not tested in these or other genes that may cause medical problems or may be passed on to offspring. The results included in this report relate only to the items tested using the sample provided. These tests were developed and their performance determined by Paw Print Genetics. This laboratory has established and verified the test(s)' accuracy and precision with >99.9% sensitivity and specificity. The presence of mosaicism may not be detected by this test. Non-paternity may lead to unexpected results. This is not a breed identification test. Because all tests performed are DNA-based, rare genomic variations may interfere with the performance of some tests producing false results. If you think any results are in error, please contact the laboratory immediately for further evaluation. In the event of a valid dispute of results claim, Paw Print Genetics will do its best to resolve such a claim to the customer's satisfaction. If no resolution is possible after investigation by Paw Print Genetics with the cooperation of the customer, the extent of the customer's sole remedy is a refund of the fee paid. In no event shall Paw Print Genetics be liable for indirect, consequential or incidental damages of any kind. Any claim must be asserted within 60 days of the report of the test results.



3382 Capital Circle NE  
Tallahassee, FL 32308

# Genetic Testing Report

Rosie

## Submitted By

Brittany Pescara

1080 County Road T3  
Grand Rapids , OH 43522  
USA

## Owned By

Brittany Pescara

## Subject Dog

Dog Name: **Rosie**

Lab Reference #: **585242**

Breed: **Labrador Retriever**

Phenotype: **Red**

Sex: **Female**

Birth:

## Disorder Results (1 of 1)

Stargardt

n/n

Dog is clear of the gene mutation associated with Stargardt Disease.