

## Dog Information

Circle B's Opal Nera (Nera)  
NAME

Female  
SEX

Labrador Retriever  
BREED ANCESTRY

February 23rd, 2024  
DATE OF BIRTH

American Kennel Club (AKC)  
REGISTRATION

n/a  
MICROCHIP

Cassandra J Day  
OWNER NAME

Canine Genetic Health Screen  
TEST

August 20th, 2024  
TEST DATE

## BREED HEALTH TESTS

| DISEASE  | GENE                      | GENOTYPE | RESULT | TESTING RECOMMENDED BY |
|--|---------------------------|----------|--------|------------------------|
| Centronuclear Myopathy, CNM                            | PTPLA                     | NN       | Clear  |                        |
| Copper Toxicosis (Accumulating)                        | ATP7B                     | GG       | Clear  |                        |
| Copper Toxicosis (Attenuating)                         | ATP7A                     | CC       | Clear  |                        |
| Degenerative Myelopathy, DM                            | SOD1A                     | 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  |                        |

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|---|------------------|----------|-----------|------------------------|
| Congenital Dyserythropoietic Anemia and Polymyopathy        | EHPB1L1 Exon 5   | GG       | Clear     |                        |
| Congenital Myasthenic Syndrome, CMS                         | COLQ (Exon 14)   | TT       | Clear     |                        |
| Copper Toxicosis (Attenuating)                              | RETN Exon 2      | CC       | Clear     |                        |
| Ehlers-Danlos Syndrome (EDS)                                | COL5A1 Exon 34   | NN       | Clear     |                        |
| Golden Retriever Progressive Retinal Atrophy 2, GR-PRA2     | TTC8 Exon 8      | NN       | Clear     |                        |
| Laryngeal Paralysis and Polyneuropathy                      | CNTNAP1 Exon 18  | GG       | Clear     |                        |
| Muscular Dystrophy-Dystroglycanopathy                       | LARGE1 Exon 11   | CC       | Clear     |                        |
| Myotonia Congenita  | CLCN1 Exon 19    | AA       | Clear     |                        |
| Myotubular Myopathy 1, X-linked Myotubular Myopathy, XL-MTM | MTM1 (Exon 7)    | CC       | Clear     |                        |
| Progressive Retinal Atrophy, crd4/cord1                     | RPGRIP1 (Exon 2) | NN       | Clear     |                        |
| Stargardt Disease   | ABCA4 Exon 28    | NI       | 1 Variant |                        |
| Ullrich-like Congenital Muscular Dystrophy                  | COL6A3           | GG       | Clear     |                        |

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## INBREEDING AND DIVERSITY

| Genetic Diversity                | RESULT | GENETIC RESULT |
|----------------------------------|--------|----------------|
| Coefficient Of Inbreeding        |        | 15%            |
| MHC Class II - DLA DRB1          |        | High Diversity |
| MHC Class II - DLA DQA1 and DQB1 |        | High Diversity |

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## TRAIT TESTS (1/3)

| Coat Color        | RESULT   | GENETIC RESULT                |
|-------------------|--|-------------------------------|
| E Locus (MC1R)    | No dark mask or grizzle                                | EE                            |
| K Locus (CBD103)  | More likely to have a mostly solid black or brown coat | $K^B k^Y$                     |
| Intensity Loci    | No impact on coat pattern                              | Intermediate Red Pigmentation |
| A Locus (ASIP)    | Not expressed  | $a^+ a^+$                     |
| D Locus (MLPH)    | Dark areas of hair and skin are lightened              | dd                            |
| Cocoa (HPS3)      | No co alleles, not expressed                           | NN                            |
| B Locus (TYRP1)   | Black or gray hair and skin                            | BB                            |
| Saddle Tan (RALY) | Not expressed  | ll                            |
| S Locus (MITF)    | Likely to have little to no white in coat              | SS                            |
| M Locus (PMEL)    | No merle alleles                                       | mm                            |
| R Locus (USH2A)   | Likely no impact on coat pattern                       | rr                            |

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## TRAIT TESTS (2/3)

| Coat Color           | RESULT                                | GENETIC RESULT |
|----------------------|---------------------------------------|----------------|
| H Locus (Harlequin)  | No harlequin alleles                  | hh             |
| Panda White Spotting | Not expected to display Panda pattern | NN             |

  

| Other Coat Traits                        | RESULT   | GENETIC RESULT |
|--|--|----------------|
| Furnishings (RSPO2)                      | Likely unfurnished (no mustache, beard, and/or eyebrows) | ll             |
| Coat Length (FGF5)                       | Likely short or mid-length coat                          | ShSh           |
| Shedding (MC5R)                          | Likely light shedding                                    | TT             |
| Coat Texture (KRT71)                     | Likely straight coat                                     | CC             |
| Hairlessness (FOXI3)                     | Very unlikely to be hairless                             | NN             |
| Hairlessness (SGK3)                      | Very unlikely to be hairless                             | NN             |
| Oculocutaneous Albinism Type 2 (SLC45A2) | Likely not albino  | NN             |

  

| Other Body Features  | RESULT                       | GENETIC RESULT |
|----------------------|------------------------------|----------------|
| Muzzle Length (BMP3) | Likely medium or long muzzle | CC             |
| Tail Length (T)      | Likely normal-length tail    | CC             |

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## TRAIT TESTS (3/3)

| Other Body Features                       | RESULT   | GENETIC RESULT |
|---|--|----------------|
| Hind Dewclaws (LMBR1)                     | Unlikely to have hind dew claws                        | CC             |
| Chondrodysplasia (Chr. 18 FGF4 Retrogene) | Not indicative of chondrodysplasia (normal leg length) | NN             |
| Blue Eye Color (ALX4)                     | Less likely to have blue eyes                          | NN             |
| Back Muscling & Bulk, Large Breed (ACSL4) | Likely normal muscling                                 | CC             |

  

| Body Size               | RESULT       | GENETIC RESULT |
|-------------------------|--------------|----------------|
| Body Size (IGF1)        | Smaller      | II             |
| Body Size (IGFR1)       | Larger       | GG             |
| Body Size (STC2)        | Intermediate | TA             |
| Body Size (GHR - E191K) | Larger       | GG             |
| Body Size (GHR - P177L) | Larger       | CC             |

  

| Performance                 | RESULT                    | GENETIC RESULT |
|-----------------------------|---------------------------|----------------|
| Altitude Adaptation (EPAS1) | Normal altitude tolerance | GG             |
| Appetite (POMC)             | Normal food motivation    | NN             |