

LABOKLIN

LABOR FÜR KLINISCHE DIAGNOSTIK GMBH & CO. KG

LABOKLIN GmbH&CoKG . Postfach 1810 . 97668 Bad Kissingen

Prakt. Tierarzt
Dr. Jörn Paeger
Krebshäger Str. 46
31655 Stadthagen
Deutschland

Untersuchungsbefund

Nr.: 1203-W-06498

Datum Eingang: 12-03-2012

Datum Befund: 08-06-2012

Angaben zum Patienten:	Hund	Labrador
	Unbekannt	
Probenentnahme:	08-03-2012	
Patientenbesitzer:	Klinkmann	
Probenmaterial:	EDTA-Blut	

Messgrößen


Ist

Referenzwert

Rassezuordnung (Berechnung) - PCR

Der Test der genetischen Rassezuordnung wurde im Partnerlabor durchgeführt. Das Ergebnis entnehmen sie bitte dem beigefügten Originalbefund.

*** ENDE des Befundes ***


Hr. Dipl.-Ing. Fabian Keller
Abt. Molekularbiologie

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Parameter	Ist-Wert	Normwert
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DNA-Profil - PCR

Club: ---
Name: Couleurs World Blue Fairytale
ZB-Nr.: 11-3134ICR
Täto-Nr.: ---
Chip-Nr.: ---

Microsatelliten-Systeme:

Name:	Couleurs World Blue Fairytale
AHT 121:	-
AHT 137:	-
AHTH 171:	-
AHTH 260:	-
AHTK 211:	-
AHTK 253:	-
CXX 279:	-
FH 2054:	-
FH 2848:	-
INRA 21:	-
INU 005:	-
INU 030:	-
INU 055:	-

Befund-Nr.: 1203-W-06498

REN 162 C 04: -
REN 169 D 01: -
REN 169 O 18: -
REN 247 M 23: -
REN 54 P 11: -


Das Ergebnis gilt nur für das im Labor eingegangene Probenmaterial. Die Verantwortung für die Richtigkeit der Angaben zu den eingesandten Proben liegt beim Einsender. Gewährleistungsverpflichtungen können nicht übernommen werden. Schadensersatzverpflichtungen sind, soweit gesetzlich zulässig, auf den Rechnungswert der durchgeführten Untersuchung/en beschränkt.

Das Labor ist für die auf diesem Befund aufgeführten Untersuchungen akkreditiert nach DIN EN ISO 17025 (D-PL-13186-01).

Rassezuordnung (Berechnung) - PCR

Der Test der genetischen Rassezuordnung wurde im Partnerlabor durchgeführt. Das Ergebnis entnehmen sie bitte dem beigefügten Originalbefund. Der oben genannte Hund wird dort mit der Nummer 12038706498 bezeichnet.

*** ENDE des Befundes ***


Hr. Dipl.-Ing. Fabian Keller
Abt. Molekularbiologie



P.O. Box 10786
Gaithersburg, MD 20898-0786
www.WisdomPanel.com

May 15, 2012

Dear Owner,

The **Wisdom Panel**® Purebred computer algorithms have performed a variety of analyses and Lab 12038706498's results are consistent with the purebred Labrador Retriever samples in the Wisdom Panel database.

This is due to the following observed results:

- In a Principal Component Analysis (PCA), Lab 12038706498's DNA sample appears within the Labrador Retriever cluster.
- In a PCA, Lab 12038706498's DNA sample appears within the Labrador Retriever cluster when also compared to an outgroup.
- In a PCA, Lab 12038706498's DNA sample appears within the Labrador Retriever cluster when compared to samples of the two next best matched breeds in the Wisdom Panel Ancestry analysis.
- The Labrador Retriever is detected as the sole predominant breed in a Wisdom Panel ancestry analysis.
- The Labrador Retriever has the best likelihood match with Lab 12038706498's DNA data based on an Inheritance By Descent (IBD) likelihood calculation.
- The Labrador Retriever is the top matching breed in a pairwise comparison analysis between Lab 12038706498's DNA data and all the purebred dogs in the Wisdom Panel database.
- The Labrador Retriever is detected most frequently in the top 20 best matched dogs in an individual pairwise comparison analysis with all of the nearly 10,000 dogs in the Wisdom Panel database.
- The observed homozygosity of Lab 12038706498's DNA data is within the expected range for this breed.

The following pages contain a detailed summary of the results of each of the separate tests performed on Lab 12038706498's DNA data.

Thank you for using the **Wisdom Panel**® Purebred test to discover if your dog has a profile consistent with a purebred Labrador Retriever. If you have any questions about the information enclosed, please contact our customer care team at customercare@marsveterinary.com.

Regards,

A handwritten signature in blue ink, appearing to read "Neale Fretwell".

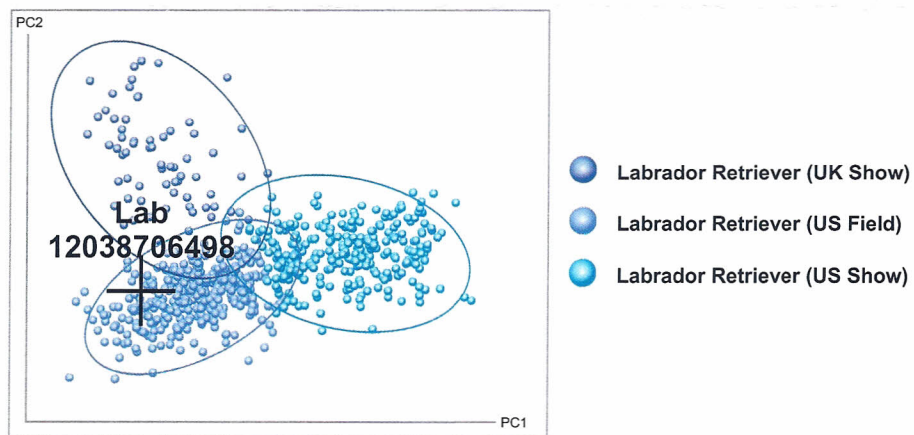
DR. NEALE FRETWELL

Research & Development Director



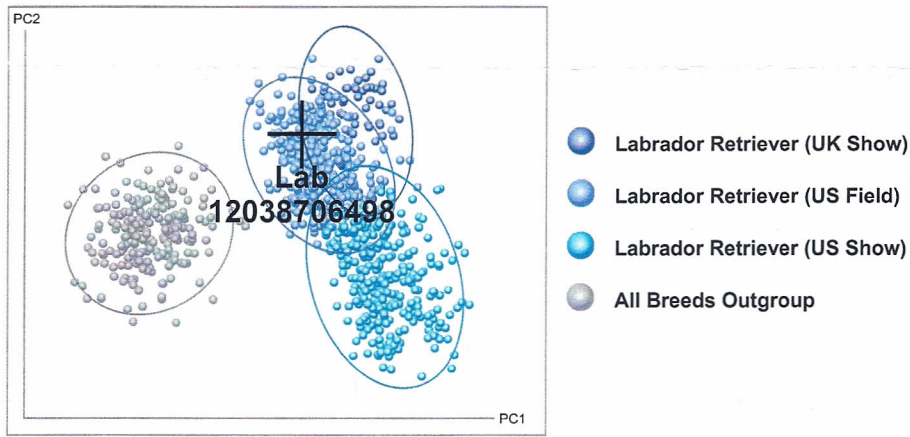
PCA Analysis of Lab 12038706498's DNA sample and Labrador Retriever samples from the Wisdom Panel database:

Principle Component Analysis (PCA) allows us to see how similar samples are. Closely related samples, like dogs from the same breed, will be expected to be closer together than samples from other breeds. This tends to create a cluster of points for each breed or sub-population within a breed. If a sample is within the cluster for the breed, this is a very good indication that it is likely a pure member of this breed. The PCA below shows Lab 12038706498's data compared to Labrador Retriever samples from the Wisdom Panel database. The sample falls within the Labrador Retriever cluster indicating that its genetic profile is consistent with other dogs from this breed.



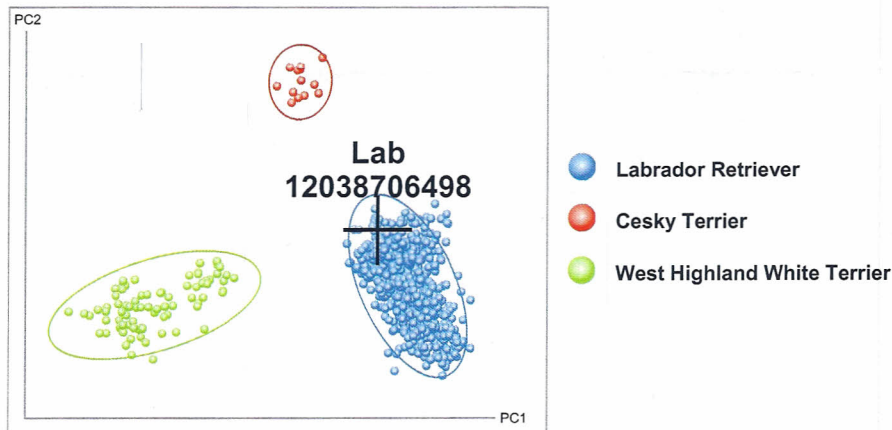
PCA Analysis of Lab 12038706498's DNA data including Labrador Retriever samples and an All Breeds outgroup:

The PCA below shows Lab 12038706498's data compared to samples of Labrador Retriever, as well as an All Breeds outgroup comprised of a single representative sample from the other breeds in the Wisdom Panel database. This is another means of verifying that Lab 12038706498's data is more consistent with the Labrador Retriever than with any other breed and here the sample is clustering closely with the purebred Labrador Retriever cluster.



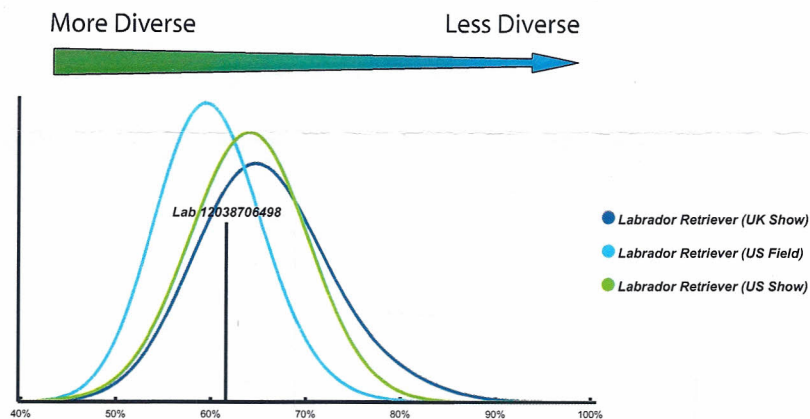
PCA Analysis of Lab 12038706498's DNA sample, Labrador Retriever and the two next closest matching breeds in the Wisdom Panel analysis:

The PCA below shows Lab 12038706498's data compared to Labrador Retriever samples, as well as samples of the next two best matched breeds from the Wisdom Panel Ancestry analysis. Lab 12038706498's DNA sample clusters tightly with the purebred Labrador Retriever cluster. This is what we would expect from a purebred Labrador Retriever.



Homozygosity Profile:

Homozygosity is a measure of how many of Lab 12038706498's genetic markers are identical because both the sire and dam passed down the same marker variant. Purebred dogs tend to have a higher homozygosity than most mixed breed dogs. Each breed within the Wisdom Panel database has a specific range of homozygosity scores. Lab 12038706498's homozygosity score falls within the range that is seen for purebred Labrador Retriever samples.



Further Information

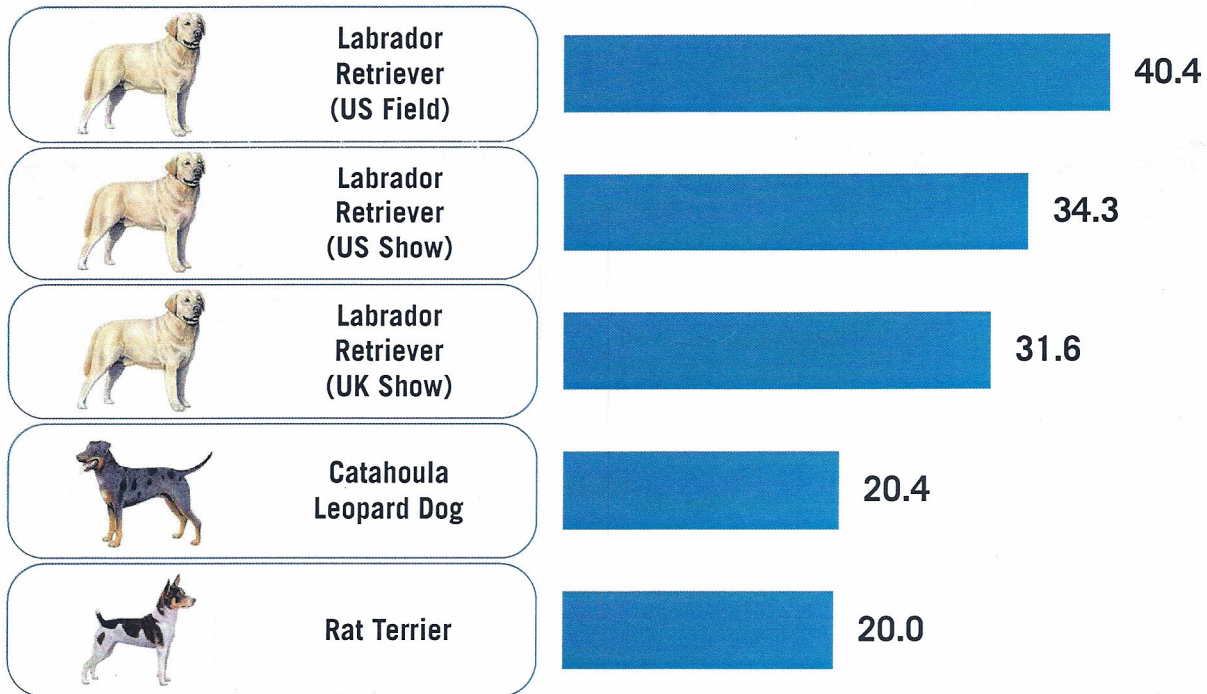
You may wish to research more information regarding the breeds found in Lab 12038706498. The following links provide useful information into breed characteristics, training and health.

- The American Kennel Club (AKC) provides information on AKC registered and Foundation Stock Service breeds at www.akc.org.
- The United Kennel Club (UKC) has a range of information on UKC registered breeds at www.ukcdogs.com.
- The Kennel Club is the major British registry and their website contains information about the breeds they register at www.thekennelclub.org.uk.
- The free encyclopedia Wikipedia contains a range of information on most breeds, including breed histories, at www.wikipedia.org.
- The Dog Breed Info Center has information on most breeds at www.dogbreedinfo.com.
- The US Pedigree website provides information about dog breeds and many US breeders at www.pedigree.com.
- The Australian Pedigree website has a very detailed breed library which includes temperament and what breeds are like to live with at www.pedigree.com.au.
- The Wisdom Panel website contains additional information about the breeds, as well as our Photo Gallery at www.wisdompanel.com.

Breed standards may vary between registries and can result in ambiguity of breed traits, which may be acceptable with some registries but not others. Additionally, the requirements of registration may differ between registries. Please check with the specific kennel club or registry to determine their registration requirements.

Best Purebred Likelihood:

An Inheritance by Descent (IBD) likelihood test was performed to determine the most likely matching breed. The results are shown in the graph below for the top 5 ranked breeds in the analysis with the best matches at the top. The best IBD likelihood found was Labrador Retriever.



Pairwise Comparison Testing:

A pairwise comparison test was performed between Lab 12038706498's DNA data and that of each of nearly 10,000 dogs in the Wisdom Panel purebred dog database. In this analysis the top matching breed detected is the Labrador Retriever.

Looking at individual samples, the Labrador Retriever occurred most often in the top 20 ranked sample matches in this analysis. This is what we would expect from a purebred Labrador Retriever.





STATEMENT OF AUTHENTICATION

Dog's name: **Lab 12038706498**

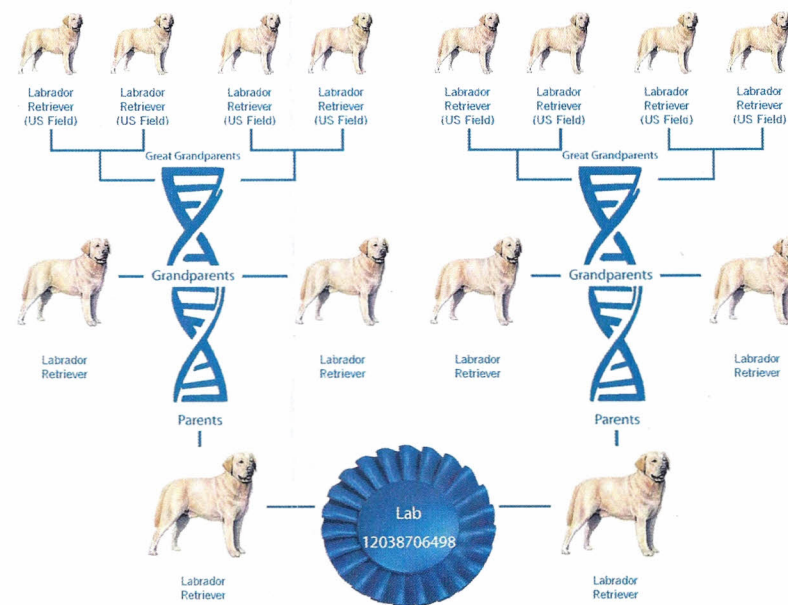
Owner's name: **Owner Laboklin**

Date: **May 15, 2012**

This certifies the authenticity of Lab 12038706498's canine genetic background as determined following careful analysis of more than 300 genetic markers using the *Wisdom Panel*® Purebred dog test. The ancestry shown is predicted to be the best match for Lab 12038706498's DNA data based on our proprietary computer analysis and extensive breed database.

DR. NEALE FRETWELL

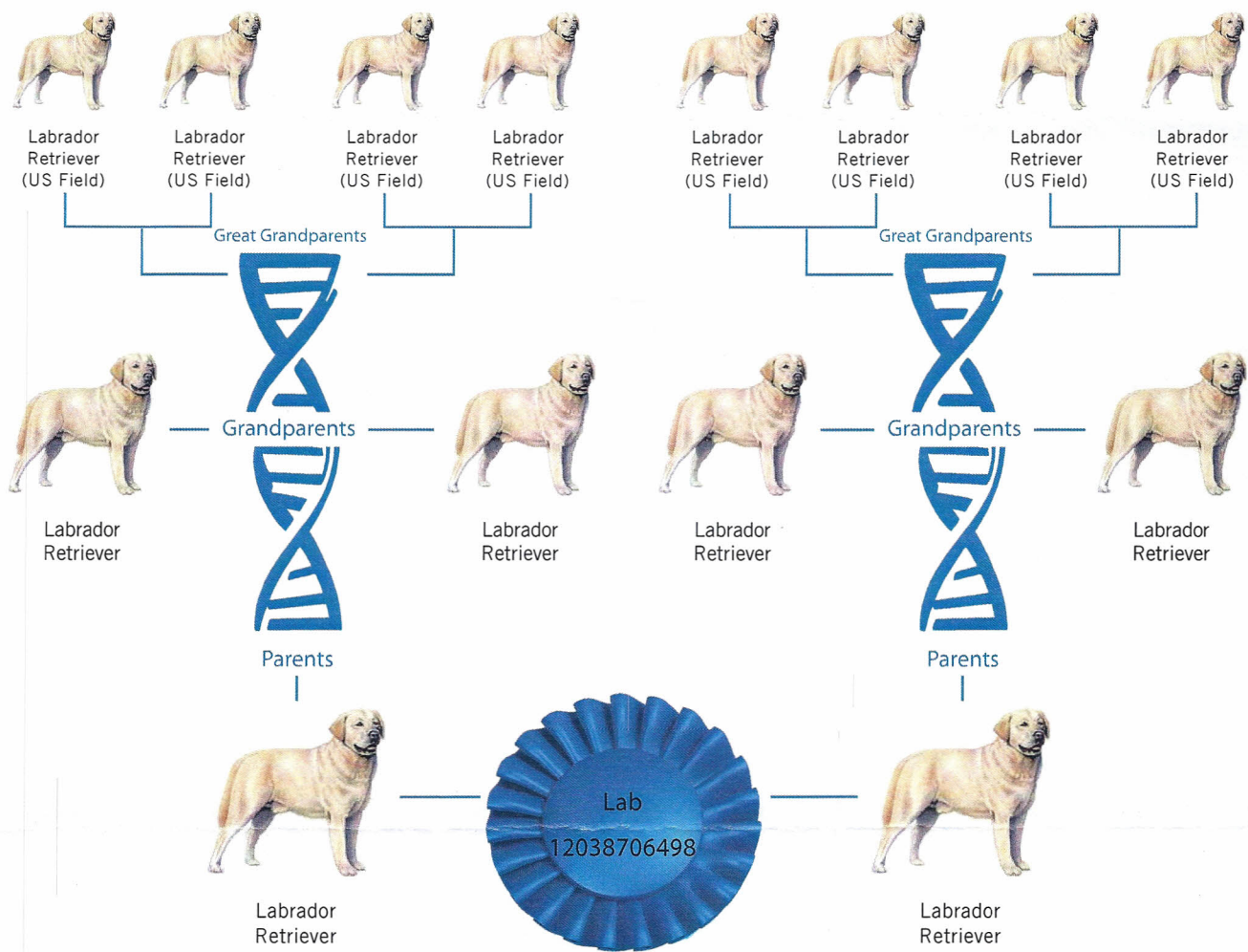
Research & Development Director



Labrador Retriever

ANCESTRY CHART

The chart below summarizes the predicted last three generations of Lab 12038706498's ancestry based on the Wisdom Panel ancestry analyses performed on Lab 12038706498's DNA data. The data supports the observation that Lab 12038706498's genetic profile matches that of a purebred Labrador Retriever.



Labrador Retriever

More information regarding the purebred detected, as well as the tests performed on your dog's DNA sample, can be found on the following pages.



LABRADOR RETRIEVER



HEIGHT:

21 - 24 in

WEIGHT (SHOW):

55 - 66 lb

WEIGHT (PET):

49 - 77 lb



EARS



MUZZLE

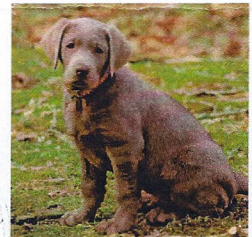
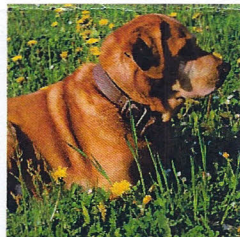
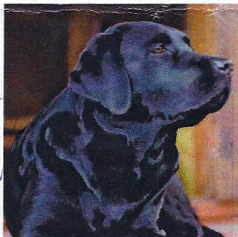


TAIL



The Labrador Retriever can trace its roots to the coast of Newfoundland, Canada. The breed dates back to at least the seventeenth century when they were known as the "Lesser Newfoundland." The breed is believed to have descended from the extinct "St. John's Water Dog" which was a cross between native water dogs and the Newfoundland. Labrador Retrievers were initially trained to retrieve fishing nets from the cold waters of the North Atlantic. Fisherman brought them to England in the nineteenth century where they were lauded for their swimming, retrieving and hunting skills. The Earl of Malmesbury is believed to have coined the name Labrador in order to differentiate them from their Newfoundland ancestors. During the 1800's, a heavy dog tax in Canada and quarantine laws in Britain drastically cut the number of Labradors in the U.K., but a good breeding program replenished the stock. Labrador Retrievers were recognized by the American Kennel Club in 1917. The DNA detected from this breed is most similar to DNA sampled from working American dogs from Field lines.

The Labrador Retriever comes in solid black, chocolate, and yellow. The yellow varies from a pale cream to a rich red fox color. Some Labradors also have white chest blazes. The Dudley variant is where the nose is pink, though this is quite rare. Non-AKC registries sometimes recognize a Silver Variant though this may be classed as chocolate by the AKC.



BEHAVIORAL TRAITS OF THE LABRADOR RETRIEVER BREED THAT YOU MAY BE FAMILIAR WITH:

- Usually happy-go-lucky, calm, or easygoing dogs, though some may be energetic.
- Usually friendly and are generally good family dogs.
- Labrador Retrievers enjoy dog sports such as agility, hunting, tracking, rally and competitive obedience; retrieving and swimming.
- Quite food motivated, which may make it easier to teach the Labrador Retriever to drop retrieved items not intended for play.

