



The NLRC was organized in 1996 with the idea of creating a national club that would preserve and promote the Labrador Retriever. Everyone in the Labrador community is welcome...from pet owners to old timers.

We are a National Lab Club formed by the members, for the members, working together for the preservation, betterment and service to the Labrador Retriever.

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Digestibility & Palatability of Pet Food - by Royal Canin

Digestibility determines how much nutrition a food provides in a given volume, while palatability affects how appealing a food is to the dog.

A food's digestibility is the collective proportion of all nutrients in a food that is available to the dog for absorption from the intestine into the bloodstream. Nutrient bioavailability is the proportion of the absorbed nutrients that are carried to target tissues and are available for use by the body. Because a highly digestible food provides a higher proportion of absorbed nutrients, digestibility provides one measure of a food's nutritional value and quality. In general, as the quality of ingredients increases so will the food's digestibility and nutrient bioavailability.

The measure of the digestibility of dog food products is done using several tests which are a combination of laboratory tests and feeding trials. In the case of feeding trials, the food is fed to a group of dogs for a selected period of time and the level of undigested matter excreted in the feces is measured and used to calculate nutrient digestibility. Although all reputable manufacturers conduct digestibility tests on the foods, the AAFCO (Association of American Feed Control Officials) has not yet established a standard protocol for digestibility studies.

The labels of two pet foods may have the same ingredient panels and guaranteed analysis, but when fed may have substantially different digestibilities. (continued page 8)

TOTAL PROTEIN VS. DIGESTIBLE PROTEIN

The pet food label provides an estimate of a food's crude protein content on its guaranteed analysis panel. The measurement "crude protein" reflects only the total amount of protein and does not indicate differences in protein digestibility between high and low quality protein sources.

FOR EXAMPLE:

DOG FOOD A: Contains 24% crude protein and is 90.0% digestible

$$24\text{g protein}/100\text{g diet} \times 0.90 = \mathbf{21.6\text{g protein absorbed}}$$

DOG FOOD B: Contains 26% crude protein and is 76.0% digestible

$$26\text{g protein}/100\text{g diet} \times 0.76 = \mathbf{19.76\text{g protein absorbed}}$$

DOG FOOD A Ingredient Panel

Chicken by-product meal, wheat, rice, animal fat, vitamins and minerals

DOG FOOD B Ingredient Panel

Chicken by-product meal, wheat, rice, animal fat, vitamins and minerals

Although the crude protein value reported for "Dog Food A" is lower than that for "Dog Food B," "Dog Food A's" higher digestibility results in more protein being available to the dog, in a given volume of food.

Dogs with Cancer Treated with PAC-1 show promise

University of Illinois chemistry professor Paul Hergenrother and veterinary clinical medicine professor Timothy Fan tested an anti-cancer compound PAC-1 in pet dogs that will be used in human clinical trials. (www.clinicaltrials.gov/ct2/show/NCT02355535)

The drug, PAC-1 first showed promise in the treatment of pet dogs with spontaneously occurring cancers and is still in clinical trials in dogs with osteosarcoma.

Anti-cancer compound, PAC-1, spurs cell death in cancer cells while sparing healthy cells by restoring the activity of procaspase-3, an enzyme that cancer cells have elevated levels of, but yet the cancer cells have never turned it on. Because the enzyme procaspase-3 is elevated in cancer cells, PAC-1 targets cancer cells over non-cancerous cells.

Early tests of PAC-1's effectiveness came when Hergenrother collaborated with Fan who tested PAC-1 in his canine cancer patients. These canine clinical trials helped the researchers find the best way to deliver the drug - it is now in pill form for both human and canine patients - and led to new insights into the drug's activity and potential.

"One of PAC-1's greatest strengths is that it synergizes with other drugs, increasing the anti-cancer effects of many compounds that are out there," Fan said.

"[PAC-1] also crosses the blood-brain barrier very well" making PAC-1 a good candidate for the treatment of brain cancer - in humans and dogs, he said.

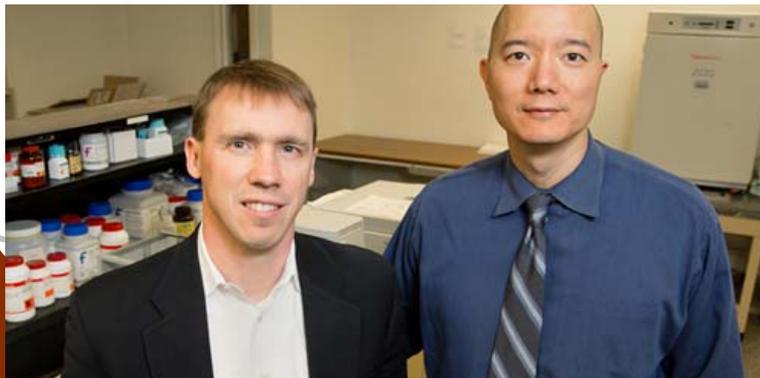
Treatment of brain cancer is a huge area of need.

Currently, we do not have that many therapies available for glioblastoma multiforme, the most common and malignant type of brain cancer.

PAC-1 is one of only a few drug agents developed and tested in animals and in humans at a single institution, Dudek said.

The work in dogs led to the formation of the Illinois-based company Vanquish Oncology to develop this anti-cancer agent.

Vanquish received initial support from the investment firm IllinoisVENTURES and an anonymous "angel investor" provided the funding to move the drug through preclinical trials and gain federal Food and Drug Administration approval to being a phase 1 clinical trial.



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Paul Hergenrother, on the left
With Timothy Fan, on the right
Photo by: L. Brian Stauffer

Dogs with Cancer treated with PAC-1 continued from page 2

The human trial, led by Dr. Oana Danciu of the U of I Hospital and Health Sciences System in Chicago, opened enrollment this month to patients with advanced malignancies. Doctors will start the first human patients at a low dose and gradually increase the dose and watch for side effects, the researchers said.

The canine trial, is hoping to begin for pet dogs with brain cancer.

They will look at PAC-1 in combination with radiation and in combination with temozolomide, a key brain cancer drug used in humans and dogs. The work with dogs will aid in understanding how human brain cancers may respond to the new treatment, Fan said.

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Please feel
free to forward
our
newsletter to
interested
family and
friends

Support TVD Research!

Visit the [National
Labrador Retriever Club
Website](#) for more info!

NLRC Membership -- Open Enrollment

Membership in the National Labrador Retriever Club, Inc. is open to all Labrador enthusiasts; however, to join you must be in good standing with the American Kennel Club, Inc. and should consider the guidelines set forth in the [NLRC Code of Ethics](#) when engaged in any activities involving the breeding, exhibiting and selling of Labrador Retrievers.

Two types of annual individual memberships are offered:

Full (voting member)	\$30
Associate (non-voting)	\$20

Click the below links for NLRC Membership forms:

[NLRC Membership Application Form \(that can be printed and mailed in with your membership fee\)](#)

Or to both apply and pay online

[NLRC Membership Application](#)

Are you listed in our [NLRC Breeders Directory?](#)

NLRC Members with full

membership rights can apply to participate on the NLRC website Breeder Directory by completing the applicable section on the PDF membership application and submitting a \$10 fee.

Any questions? Contact our Interim Membership Chair:
Sandra Underhill
Sandy@LabsToLove.com

New Members Welcomed
Apply Online Today

Microchips...what you need to know!

by AKC Reunite

Pets with microchips are up to 20 times more likely to be reunited with their owners than pets without microchips.

There are many microchipping options available today, making pet microchipping more affordable and accessible. Some companies have been around for 20+ years, others are new entrants to the market with little or no experience in companion animal ID. So when choosing a microchip program, there are important things to consider beyond price to ensure your pets are protected for their lifetime.

ISO Compliant or compatible? ISO compliant microchips are certified by ICAR for fully conforming to the ISO 11784 requirements for coding the microchip. Per ISO 24631-3, the manufacturer of such chips has signed the Code of Conduct stating that they will not produce duplicate ID codes.

ISO compatible means that although the transponders can be read by FDX-b compatible microchip readers, the coding may be anything the seller or user desires, including a phone number, owners' social security number or anything else. Microchips that are ISO compatible run the risk of having duplicates in use.

Microchip Materials: If a microchip is tinted, oftentimes greenish in color, it is made from bioglass, a medical-grade material approved for use inside the body. Bioglass can be laser sealed allowing for a seamless design that will help ensure the lifetime integrity of the microchip.

A microchip with clear glass is not made with bioglass, meaning the entire transponder is heated during the sealing process. Overheating the electronic transponder can impact the longevity of the microchip. It is also possible that clear glass contains lead.

Mini-chips: Mini chips are delivered in a needle that is only one gauge smaller. These smaller chips oftentimes have half the read range of conventional microchips. Since most microchip readers have read ranges of only a few inches, the smaller microchips will be especially difficult to find when implanted in thick-skinned, heavily coated or overweight pets.

What do you know about the microchip provider? Can chips be returned after purchase? Does the provider track where its microchips are sold? Does the provider have a reliable 24/7 recovery service associated with each microchip? Does the provider offer a reliable phone number that will support your microchipping product purchase AND assist in the reunion of the pet when found? What is the enrollment fee structure?

For more information: microchip@akcreunite.org

article submitted by: Margo Carter



Microchip Next to Grain of Rice



New Research into Spontaneously Occurring Cancer in Dogs is Helping with Human Disease by AKC Canine Health Foundation

The AKC Canine Health Foundation has announced findings from the CHF-funded research grant 1889-G that is impacting both canine and human health.

There is a growing body of evidence to substantiate the genetic and prognostic similarities between human and canine cancer. The researchers have successfully defined molecular subtypes of lymphoma, a commonly diagnosed cancer in dogs, from three specific dog breeds in comparison to the same human cancer.

While lymphoma is among the most common cancer in all dogs, the inherent genetic similarities between dogs of the same breed facilitate the study and identification of specific disease-causing mutations and cellular mechanisms. Read the entire article here: www.akcchf.org/lymphomaresearch

Permission to print granted by: Samantha Wright, sjw@akcchf.org

article submitted by: Nancy Renzullo

Labrador Retriever Blood Samples Needed

The Ostrander Laboratory at the National Human Genome Research Institute at NIH is soliciting donations of blood samples from Labrador retrievers. Their aim is to include these samples in a large dataset used to find genes important in disease susceptibility and progression, as well as to understand the genetic basis of canine body shape and size. Our lab has active projects focused on finding genes for several types of cancer and complex morphologic traits. We are also interested in understanding the architecture of the canine genome, the historical relationships between breeds and the genetic history of dog domestication.

Collecting blood samples from numerous dog breeds, such as the Labrador Retriever, is paramount to the success of our research on canine morphology, including genetics of skull shape and body size, due to the extreme size and the unique characteristics of the modern domestic dog.

If you would like to participate by donating a sample from your Labrador Retriever (or if you have any questions) please contact Erica Chapman: dog_genome@mail.nih.gov or 301-451-9390 for a sampling kit. Each kit contains a one page consent form, a pair of vials for collecting blood at your veterinarian's office. We ask that you provide the name and sex of the dog, AKC or other registration number, owner contact info and sign the consent form.

All genetic and contact information collected for each dog will remain confidential and will not be shared with any breeders, the AKC, the AKC CHF. "Our work would not be possible without you."

Veterinarian Cancer Society: Clinical Trials

The Veterinarian Cancer Society (www.vetcancersociety.org) offers at their website a link to a searchable database for clinical trials for cancer in pet animals. (www.vetcancertrials.org)

“Each clinical trial has very specific qualifications for participation that include everything from the breed and age of the pet to the life expectancy, weight and of course the type of cancer.”

Clinical trials are not always free and are not always located near your home. You may have to be prepared to travel a distance to be able to participate.

The participant in a clinical trial for the treatment of cancer in animals deploys many of the same methods that are available to human patients and/or may be a new treatment method that may be considered experimental. Given that many of the cancers in pet animals mimic human cancers, these studies could provide meaningful research that will benefit both humans and pets.

For more information: www.vetcancersociety.org/pet-owners/clinical-trials

submitted by: Nancy Renzullo

Some Mammals Don't see Cancer as Often, Why?

There are just two dog breeds that don't often see a case of cancer within their lines, and neither breed is a Labrador Retriever.

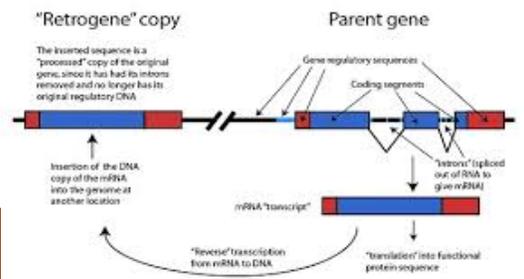
So while some researchers are looking at the similarity of cancers that affect both human and dog.....other researchers are looking at large mammals, ie: whales and elephants, for a reason why they do not succumb to cancers.

These researchers are not seeing their peers readily accepting their research, but these researchers believe there's hope and promise in their studies of large mammals, like the Elephant.

The elephant has been found to possess twenty versions of a tumor suppressing retrogene. This same retrogene is found only a single time in both dogs and humans who each have just one version each.

To read more about the tumor suppressing retrogene, visit Newsweek's page:

<http://www.newsweek.com/2015/10/16/researchers-studying-elephants-improve-cancer-treatment-380822.html>



'Tis the Season by: Patty Ferington

In Chinese medicine each season is associated with two organs that are considered to be complementary opposites. Over many centuries, the Chinese noted that there is a direct correlation between the seasons and certain disease states. They linked natural elements with the seasons and the body. The seasons were named after the elements and the concept became known as the Five Element Theory.

Another critical concept in Chinese medicine is that of Qi ("chi"). Qi is the life force of energy that flows through the body systematically, stimulating and balancing each of the organ systems.

Following is a list of the seasons and their associated elements and organ systems:

Spring is wood and Qi is in the liver and gallbladder. (March 21 - June 6)

Summer is fire and Qi is in the heart and small intestine. (June 21 - September 9)

Fall is metal and Qi is in the lungs and large intestine. (September 21 - December 7)

Winter is water and Qi is in the kidneys and bladder. (December 22 - March 6)

The two weeks between each of the above seasons are the element Earth and Qi is in the stomach and spleen.

The Chinese found that when the energy of the season is in the corresponding organs, diseases of those organs are more prevalent.

Canine Flu Vaccine Available!

The contagious Canine influenza (aka "Dog Flu") in dogs is caused by "Type A influenza viruses."

Although to date, the CDC (Centers for Disease Control) states that there is no evidence of cross transmission of the virus from dogs to people, the CDC notes that the very nature of viruses is to change and adapt, meaning it is possible for a virus to change in such a manner that humans could be possibly be infected in the future.

Canine influenza was a virus that for four decades had only infected horses before it crossed the species barrier to dogs. Reportedly canine influenza has infected some cats.

Signs of infection with canine influenza are a cough, a runny nose and fever, but not all dogs will be symptomatic.*

Merck's & Zoetis both have released a Canine Flu vaccine using killed virus H3N2 for vaccination of dogs against Canine Influenza.

Recommendations are that the vaccines be given in two doses, at a three-week interval. **

Reference: *cdc.gov/flu/canineflu/keyfacts.htm

**veterinarypracticenews.com/zoetis-unveils-new-drugs-for-dogs-horses

Digestibility & Palatability of Pet Food - by Royal Canin

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A number of factors affect pet food digestibility:

FORMULA: Formula refers to the type and quantity of different ingredients that are included in the product. Because pet food ingredients vary significantly in digestibility, the overall product formula is influenced by the digestibility and nutrient bioavailability of its various ingredients.

INGREDIENT QUALITY: Overall digestibility is increased by the inclusion of high quality ingredients and decreased when poor quality amounts of ash, certain types of dietary fiber and phytate (a component of plant ingredients that decreases the availability of certain essential minerals in a diet).

PROCESSING: Proper processing techniques, cooking temperatures and storage procedures support optimal nutrient digestibility and bioavailability. Conversely, digestibility and nutrient bioavailability can be significantly reduced by improper processing. For example, excessive heat damages protein resulting in decreased digestibility of certain amino acids.

Palatability refers to a food's taste, smell and texture. It is an important food characteristic because dogs must be willing to eat adequate amounts of the food to meet their calorie and nutritional needs. Dogs will make decisions about a food based on three sensory characteristics: aroma, texture and the macronutrient profile of the food. Dogs have a hypersensitive nose and aroma plays an important role in food selection. Although dogs find the aroma of the food enticing, it is not always the same as the ones humans find palatable. In addition, texture, size and shape of the food pieces are important; scientists who study palatability refer to this as "mouth feel." The macronutrient profiles refers to the optimal blend of protein, fat and carbohydrates for a dog. The fusion of these macronutrients affects the post-ingestion feeling that the dog has after consuming a meal and some dogs may be sensitive to this feeling. Environment and age of the dog as well as the owner's reactions to different types and flavors of food are also considered.

There are several ways that pet food companies test a food's palatability. Tests that measure the dog's preference when initially presented with a new food provide information about the immediate appeal to the food's smell, appearance and texture. Long-term interest is measured using food preference studies. Each dog is offered a choice of two diets that are presented in identical bowls to the left and right.

Surplus food is offered in each bowl so it is not necessary for the dog to eat both foods in order to meet his energy needs and the positions of the bowls are switched daily to account for the dog's with right or left side preferences.

The amount of food consumed is measured over a period of several days. These tests provide information about a food's acceptability to dogs over time and its relative palatability when compared with other foods.

Finally, the ultimate test of palatability involves presenting the food to pets in homes where both the pet's and the owner's perceptions of the food are considered.



EAGLE BAY'S CALL OF THE FARAWAY HILLS – "SHANE"

EAGLE BAY'S BODACIOUS IN BLACK – "BRODIE"

Lauren Kincaid's Eagle Bay's Call of the Faraway Hills – "Shane" & Eagle Bay's Bodacious In Black – "Brodie" Competed in two Rally Obedience trials at the Labrador Club of Potomac Specialty Show held in April 2015.

Brodie (on the left in the above photo) earned 2nd & 3rd place in Advanced Rally

Shane (on the right in the above photo) earned 4th place in Advanced Rally



EAGLE BAY'S CALL OF THE FARAWAY HILLS – "SHANE"

EAGLE BAY'S BODACIOUS IN BLACK – "BRODIE"

Lauren Kincaid's Eagle Bay's Call of the Faraway Hills – "Shane" & Eagle Bay's Bodacious In Black – "Brodie"

Brodie, on the left and Shane, on the right in the above photo are receiving their AKC Rally Obedience Advanced titles from Judge Jean Porter Lynch on June 6, 2015.

On September 4, 2015, both Brodie & Shane have finished their AKC Rally Obedience Excellent titles, under Judge Sharon West.



EAGLE BAY'S CALL OF THE FARAWAY HILLS – "SHANE"

EAGLE BAY'S BODACIOUS IN BLACK – "BRODIE"

Lauren Kincaid's Eagle Bay's Call of the Faraway Hills – "Shane" & Eagle Bay's Bodacious In Black – "Brodie"
On September 4, 2015, both Brodie (on the left in the above photo) & Shane (on the right) have finished their
AKC Rally Obedience Excellent titles, under Judge Sharon West.



CH BISS RAMBO'S FLY'N SOLO – "SOLO"

Jeff Moore's (Rambo Run Labradors) CH BISS Rambo's Fly'n Solo – "Solo"

4/11/2015 Best of Winners (BOW), Best of Opposite Sex (BOS), Harrisburg Kennel Club

Solo is a New Champion!

Solo's sire is AM CAN UKC Multi BIS, AM BISS GRCH Casbar's A Hart Act To Follow, WC, JH



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The National Labrador Retriever Club, Inc. exists for the protection and betterment of the breed, to encourage education of the general public who may want to add a Labrador to their family and to meet a social responsibility to its members, the general public, and the Labrador world in particular. To this end, we adopted a [Code of Ethics](#) to serve as a guide.

Our Newsletter, The Labrador Connection, is published by the club periodically when sufficient material is received. The Labrador Connection's newest electronic issue is emailed to members when it is published and all issues may be viewed online at any time.

Visit our website online at www.NationalLabradorRetrieverClub.com

