

**OPTIGEN** for the genetic advantage



**red2 Mutation Identified:** After many years of study at Cornell University by scientists in the laboratory of Drs. Greg Acland and Gus Aguirre, the mutation causing red2 was identified and a manuscript describing the finding has been submitted for publication (Kulekova, Goldstein et al., 2008). This work was supported prior to 2006 by the Morris Animal Foundation and also by continued contributions of the Collie Health Foundation. The red2 DNA test (patent pending) is able to identify with complete accuracy whether a dog has no copy (is Normal), has 1 copy (is a Carrier) or has 2 copies of the mutation (is Affected).

**Inheritance of red2:** Collie breeders and researchers knew for many years that Collie PRA/red2 is inherited in an autosomal recessive manner. In order for disease to occur, two copies of the mutation must be present. Carriers do not show disease but are able to pass the disease on to offspring. The table below shows the predicted outcome of different matings when the red2 status of each parent is known. It should be kept in mind that these predictions are statistical in nature. A Carrier will pass the mutation on to half of its offspring on average. The larger the population that one examines, the more closely the predicted outcome will fit the actual outcome. A single litter of pups (a small population) produced by a Carrier parent can show quite a variation from the expected results.

**Expected results for breeding strategies using the OptiGen red2 test**

Parent 1 Status	Parent 2 Status		
	Normal/Clear	Carrier	Affected
Normal/Clear	All Normal/Clear	1/2 Normal/Clear 1/2 Carrier	All Carrier
Carrier	1/2 Normal/Clear 1/2 Carrier	1/4 Normal/Clear 1/2 Carrier 1/4 Affected	1/2 Carrier 1/2 Affected
Affected	All Carrier	1/2 Carrier 1/2 Affected	All Affected

**Pricing:**

Offspring of OptiGen tested Normal to Normal Mating (Obligate Normal)  
 prcd-PRA and CEA -- \$95 per dog  
 all other tests -- \$75 per dog

Offspring of OptiGen tested Normal to Affected Mating (Obligate Carrier)  
 prcd-PRA and CEA -- \$95 per dog  
 all other tests -- \$75 per dog

CEA/CH - Collie Eye Anomaly/Choroidal Hypoplasia -- \$180  
 Collie (Combo price - \$144)

red2-PRA -- \$180\*\*  
 Collie (Combo price - \$144)  
 \*\*Litter rate pricing -- \$120 for each pup



Contact us or the Collie Health Foundation for additional discount programs that become available!

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MissionFish was launched in 2000 as an online exchange where nonprofits could accept in-kind gifts, keep anything useful, and sell the rest. The result was a way to keep in-kind gifts from becoming "un-kind gifts." In 2003, eBay invited MissionFish to bring our experience to their global

community. Together they built eBay Giving Works - a powerful way for anyone to do good just by buying or selling online. More than that, eBay Giving Works provides:

- A way for anyone to do something good with the stuff they have.
- A tool that lets nonprofits turn those in-kind gifts into money.
- A solution for nonprofits of every size to maximize cause-marketing, without expensive setup costs or million-dollar commitments.
- An easy way for any eBay user with a PayPal account to donate to nonprofits right away.


With the combination of MissionFish technology and nonprofit expertise, plus eBay's active global community, they have formed the eBay Giving Works program. This allows sellers to give proceeds from their sales to a favorite nonprofit, and helps nonprofits raise funds by selling on eBay too.

The Collie Health Foundation can now receive donations from eBay users through the Donate Now feature, which lets anyone with a PayPal account donate to the Collie Health Foundation right away - without buying or selling anything.




There are two ways to donate items for auction for the Foundation through Mission Fish.

List your item yourself under your own account; as you create your listing, be sure to click the "Collie Health Foundation" box when you get to the "eBay Giving Works" section. If it doesn't appear, click on "Or, select another nonprofit you love," to go to a menu where you can find Collie Health Foundation.

 eBay Giving Works  
Donate 10-100% of your sale to your favorite nonprofit and eBay will give you a credit on basic selling fees for sold items. A donation of at least \$5.00 is required if your listing sells (does not apply to Direct Sellers)

I do not wish to donate at this time  
 Collie Health Foundation  
 Cystic Fibrosis Foundation  
 Save Szadvar Castle with Global Giving

Or, select another nonprofit you love  
Donation percentage 100%



Not computer savvy or don't have an e-bay account? Just send us your item and we'll sell it and send you a receipt for your donation when it sells! Items we sell on the Foundation's account will only be accepted for 100% donations. Contact Chenoa Braucher at [takodacollies@yahoo.com](mailto:takodacollies@yahoo.com) for details!

