

## PROGRESSIVE RETINAL ATROPHY – GR1

REPORT NO.: SA2019/71518/0409/14

Client Name: LIANE VAN DER HOVEN  
 Kennel Name:  
 Client Address: SUITE 69  
 PRIVATE BAG X16  
 7200  
 Client Tel No.: 072 697 0841



Canine Name: **BONYL MAGIC WILLOW**  
 Breed: **GOLDEN RETRIEVER**  
 Microchip No.: **945000001729504** Registration No.: **ZA008981B17**  
 Genetic Test: **PROGRESSIVE RETINAL ATROPHY – GR1**  
 Result: **CLEAR**

### PROGRESSIVE RETINAL ATROPHY – GR1 (PRA\_GR1)

SAMPLE TYPE: EDTA BLOOD AMPULE  
 EXTRACTION METHOD: DNA EXTRACTION  
 TEST TYPE: SANGER SEQUENCE DETECTION

Progressive Retinal Atrophy (PRA) is a collective of genetic eye disorders that share similar symptoms. There are numerous mutations that cause PRA in various canine breeds. PRA\_GR1 is a late onset PRA discovered in Golden Retrievers responsible for 60% of PRA cases in Golden Retrievers.

A single cytosine insertion at c.2601 in the SLC4A3 gene causes a shift in the reading frame and subsequent premature termination. PRA\_GR1 is an autosomal recessive photoreceptor degenerative disease, where two copies of the mutation are required for an individual to be affected.

Downs et al 2011. A Frameshift Mutation in Golden Retriever Dogs with Progressive Retinal Atrophy Endorses SLC4A3 as a Candidate gene for Human Retinal Degenerations. PLoS One 6(6), e21452.

### BREEDING IMPLICATIONS

		MATERNAL CANDIDATE		
		CLEAR	CARRIER	AFFECTED
PATERAL CANDIDATE	CLEAR	ALL CLEAR	50% CLEAR 50% CARRIER	ALL CARRIER
	CARRIER	50% CLEAR 50% CARRIER	25% CLEAR 50% CARRIER 25% AFFECTED	50% CARRIER 50% AFFECTED
	AFFECTED	ALL CARRIER	50% CARRIER 50% AFFECTED	ALL AFFECTED

Disclaimer: This report does not disregard the existence of any unknown or rare variant of SLC4A3 gene that may cause PRA, nor does it disregard the existence of any unknown or rare variant of any other gene that may cause or be associated with PRA in Golden Retrievers.



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