

DOG COAT COLOR / NATURAL BOBTAIL TEST REPORT

<p>Provided Information:</p> <p><i>Name:</i> JOYASEDA'S ELATED THAT'S JUST TIMING</p> <p><i>Registration:</i> KC4194401</p>	<p>Case: NCD213009</p> <p><i>Date Received:</i> 06-Feb-2023</p> <p><i>Report Issue Date:</i> 21-Feb-2023</p> <p><i>Report ID:</i> 0794-1033-5656-3128</p> <p style="text-align: center; font-size: small;">Verify report at www.vgl.ucdavis.edu/verify</p>
<p><i>DOB:</i> 02/18/2022 <i>Sex:</i> Male <i>Breed:</i> Havanese <i>Microchip:</i> 956000012937644 <i>Color:</i> Gold & White</p>	
<p><i>Call Name:</i> T.J.</p>	
<p><i>Sire:</i> JOYASEDA'S ACE OF HEARTS</p> <p><i>Reg:</i> CY632859</p> <p><i>Microchip:</i></p>	<p><i>Dam:</i> CHRISTA'S JUMPY CLOWN MY LITTLE RUBY</p> <p><i>Reg:</i> 1136438</p> <p><i>Microchip:</i></p>

RESULT

INTERPRETATION

MC1R (E LOCUS)	E/e¹	1 copy of black and 1 copy of red/yellow/cream.
BROWN (B LOCUS)	B/b	1 copy of brown present - carrier.
DILUTE (D LOCUS)	D/D	No known dilution variants present.
DOMINANT BLACK (K LOCUS)	N/N	Dog does not have the dominant black mutation.
LEGACY AGOUTI	a^y/a^y	Homozygous for fawn/sable.
AGOUTI (A LOCUS)	ASIP^{DY}/ASIP^{DY}	Two copies of dominant yellow.
PIEBALD (S LOCUS)	S/S	Dog has 2 copies of piebald.

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<p><i>Client/Owner/Agent Information:</i> JANE MULLEN</p>	<p><i>Case:</i> NCD213009 <i>Date Received:</i> 06-Feb-2023 <i>Report Issue Date:</i> 21-Feb-2023 <i>Report ID:</i> 0794-1033-5656-3128</p> <p style="text-align: center; font-size: small;">Verify report at www.vgl.ucdavis.edu/verify</p>
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Additional Information

If testing for a disease or a disorder was performed and results indicate the animal is affected or at risk, we recommend contacting your veterinarian for further clinical evaluation and for additional information on disease and management.

For more detailed information on Dog Coat Color test results, please visit our website at:
www.vgl.ucdavis.edu/resources/dog-coat-color

Agouti research is ongoing, and additional variation beyond the resolution of this test may exist.

For terms and conditions of testing, please see www.vgl.ucdavis.edu/about/terms-and-conditions

Results are determined using PCR-based methods. The results relate only to the sample tested as identified by the submitter (for example, identity and/or breed).

Report authorized by Dr. Rebecca Bellone, VGL Director

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Agouti: the ASIP (A) locus


The Agouti gene, also referred to as the **A locus** or **ASIP locus**, is a gene that controls where and when eumelanin (i.e. black/brown pigment) or phaeomelanin (i.e. red/yellow/tan pigment) is produced in the coat of dogs and other mammals. The old Agouti test (now referred to as Legacy Agouti) identified four alleles at the Agouti locus, but these alleles did not fully explain the different coat color phenotypes controlled by this gene. Recent research by Dr. Bannasch and colleagues has uncovered more of the complexity of dog coat color as it relates to the ASIP locus, allowing our laboratory to offer a more complete test to our clients.

The new Agouti test allows for the identification of eight haplotype combinations, and their correspondence to the Legacy Agouti alleles is shown below.

Note: The illustrations below portray examples of adult coat patterns. Puppy coats typically exhibit more eumelanin (black/brown pigment). For example, in puppies, the Black Saddle coloration looks like Black Back and Shaded Yellow can look very similar to Agouti.

PHENOTYPE NAME	COMMON NAMES	ASIP HAPLOTYPE COMBINATION	OLD ALLELE Legacy Agouti	
 Dominant Yellow	fawn, sable, red, cream, tan	ASIP^{DY}	a ^y	<div style="display: flex; align-items: center; justify-content: center;"> most dominant  least dominant </div>
 Shaded Yellow	shaded sable, shaded fawn, fawn, sable, red, cream, tan	ASIP^{SY}		
 Agouti	wolf sable, sable, grey, agouti	ASIP^{AG}	a ^w *	
 Black Saddle	saddle back, saddle tan, black and tan, hound	ASIP^{BS}	a ^t	
 Black Back	black and tan, bicolor, tan points, pointed	ASIP^{BB1} ASIP^{BB2} ASIP^{BB3}		
 Recessive Black	black	ASIP^a		

 Eumelanin (black/brown pigment)
 Appearance of pigment will depend on other genes, e.g. Brown (B locus), Dilute (D locus), *MC1R* (E locus), and Dominant Black (K locus)

 Phaeomelanin (yellow/red/tan pigment)
 Appearance of pigment will depend on other genes, e.g. Dilute (D locus), Intensity (I_n), and *KITLG*

*In some cases, the a^w Legacy Agouti allele can correspond to the new **ASIP^{BB3}** haplotype combination.