Segregation Analysis

Results:
PAP (‚Pedigree Analysis Package')

Summary

	Dominant inheritance (Penetranz >= 75 %)	Recessive Inheritance (Penetranz = 95%)
AIC	47.6	37.6
- 2 ln(Likelihood)	45.6	35.6
Test-Statistics	13.6	3.5
Critical Value	9.2	5.1
	-> exclusion	-> not excluded

Autosomal Recessive Inheritance !!!

Whole Genome Sampling Assay (WGSA)

Kooperations:

1. Affymetrix
Dr. Georg Papoutsoglou
Account Manager - Central Western Germany
Affymetrix UK Limited
Tel: +49 208 466 8437

Due to chip manufacturing problems (Quality control) of the company we forbear from doing some testings

Summary

1. **Candidate-Gen-Test**
   More blood-samples from SA+ Akitas Tested „Hot Spot" corresponds to a high propability to be SA-affected
2. **WGSA- Chip Screen**
   Feedback concerning chip qualitiy control from the company
3. **Segregation - Analysis**
   First statistical evaluation of pedigrees from SA affected Akitas: Autosomal Recessive inheritance!

Future Experiments

1. **We need more blood-samples from SA affected Akitas for MHC screen**
2. **WGSA- Chip Screen planned**
3. **We need more pedigrees from SA affected Akita dogs for statistical evaluation**

For the statistical evaluation **we need**
- beside the urgent needed blood-samples -
Pedigrees from SA affected Akita or

Pedigrees from Akita which have affected Akita in their line (parents, grandparents, brothers, sisters……)

The affected Akita must be marked as affected.

Please send as much pedigrees you can to:

PD Dr. Ina Pfeiffer, Kassel University,
Institute for Biology,
Heinrich-Plett-Strasse 40, 34109 Kassel or
e-mail: ipfeiff@gwdg.de

The Background Story of SA

The basic reaction of
immunity and autoimmune-controle is a

„KEY – LOCK – PRINCIPLE"

In the body different molecules participate in this process

Modifications within this molecules lead to disorder

Sampling

In the meantime the following additional samples arrived at the Institute:

Germany: 7 SA positive Akitas

Israel: 3 SA-positive Akitas

Switzerland: 1 SA-positive Akita

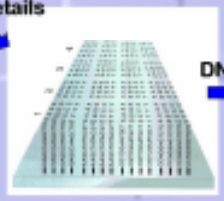
Finnland: Sampling is organized by H. Lohi (University of Helsinki)

Japan: 1

Whole Genome Sampling Assay (WGSA)

WGSA-DNA-Array
Affymetrix

Details



DNA

1.DNA + SA

2.DNA - SA

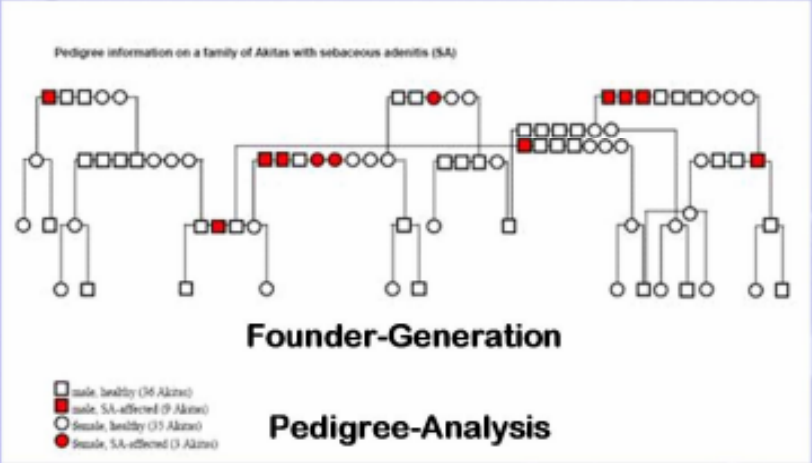
MHC-Complex Candidate-Gene-Screen

Results:

- An association between DLA12 haplotypes and SA susceptibility in Akita dogs was observed. The positive trend is very promising for a SA diagnostic test.

Segregation Analysis

Mendelian Inheritance of SA

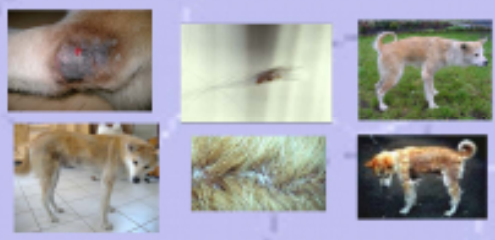


Report about the SA research news
Helsinki June 2006 until Wiesbaden June 2007

Interim Findings of the Research Project on Sebaceous Adenitis (SA)

Wiesbaden 2007
PD Dr. Ina Pfeiffer
Institute of Biology
University of Kassel

Sebaceous Adenitis (SA) disease in Akitas



...Changing Our World Through
Canine Health Research
-A New Perspective

Interim Findings of the Research Project on Sebaceous Adenitis (SA)

1. **Overview:**
   Sebaceous Adenitis Background Information
2. **MHC-Candidate Gene Screen**
3. **Whole Genome Sampling Assay (WGSA)**
4. **Segregation Analysis**

The Background Story of SA

Etiology of the Disease:

- Male and female dogs are affected
- First signs monitored: Age of 2 years
- Not coat-colour depended
- Different forms of SA:
  1. Fast form
  2. Silent form
- Mostly triggered by stress: eg. pregnancy
- No medical treatment available to restore the destroyed sebaceous glands

The Background Story of SA

Skin:

Sebaceous Gland:

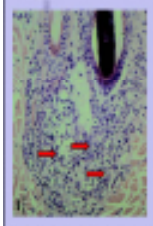
Reasons:

~~Virus~~

~~Bacteria~~

~~Fungi~~

The Background Story of SA



Histopathology

- Sebozytes were attacked by APC-Cells
- No virus; No bacterial infection or fungi
- The recognition process between "self" and "non- self" is running out of control
- "Autoimmune-mediated" disease