

## Skeletal Atavism Test™

**Applicable breeds:** Shetland Ponies and American Miniature Horses



**Skeletal Atavism** is a heritable defect resulting in an abnormal development of the limbs due to skeletal malformation. Both fore and hind-limbs are affected, resulting in severely knock-kneed and cow-hocked postures. Ponies are usually euthanised at a young age due to the severity of their deformities.

Further information can be found in a comprehensive article [here](#)

**Skeletal Atavism** is inherited in a recessive manner. It is caused by either of two genetic mutations. This means that ponies which carry either mutation ("CARRIERS") are normal but will pass the mutation on to an average of 50% of their offspring. Foals which inherit two copies of either mutation will develop Skeletal Atavism ("AFFECTED"). It is estimated that about 12% of Shetland ponies are CARRIERS.

### **This test is particularly useful for breeders:**

- To identify carriers among their breeding stock so that they can avoid CARRIER X CARRIER mating combinations which would risk AFFECTED foals.
- To conclusively confirm **Skeletal Atavism** in an affected foal

### **This test will be reported as:**

**CLEAR** : no evidence of either **Skeletal Atavism** mutation

**CARRIER** : carries one copy of either mutation, which will be passed to 50% of offspring

**AFFECTED** : carries two copies of either mutation, causing **Skeletal Atavism**

### **The genetic status of ponies can be used to predict breeding outcomes when different combinations are mated:**

CLEAR X CLEAR = 100% CLEAR

CARRIER X CLEAR = 50% CARRIER, 50% CLEAR

CARRIER X CARRIER = 25% AFFECTED, 50% CARRIER, 25% CLEAR



**Animal DNA Diagnostics Ltd** now offers the **Skeletal Atavism Test™** under licence from Capilet Genetics. Further details can be sourced at their website <http://www.capiletgenetics.com/en>