

PK Def Tests Results Explained and How it will Affect your kitten

In 2011 it became evident that the Singapura has a genetic condition called Pyruvate Kinase Deficiency (PK Def), **not to be confused with PKD which stands for Polycystic Kidney Disease which does not affect Singapuras.**

All responsible breeders will have had their Singapura cats tested for PK Def which is done by a simple mouth swab sample being sent into a Laboratory licensed to run the test. In the UK, the main centre for this is [Langford University](#). The test results will show one of 3 results for the tested cat:

Unaffected or Clear - A **Normal** autosomal recessive PK Def genetic test result means that the cat does not have the genetic mutation causing pyruvate kinase deficiency.

Carrier - A **Heterozygous** autosomal recessive PK Def genetic test result means that the cat has one copy of the mutation. The cat will not have pyruvate kinase deficiency, but may pass the mutation to their offspring.

Affected or Positive - A **Homozygous** autosomal recessive PK Def genetic test result means that the cat has two copies of the mutation. The cat will have pyruvate kinase deficiency.

How do these results affect my kitten?

PK Def is not infectious!

Positive kitten – Though this kitten has been found to be affected with PK Def, it does not necessarily mean this is a death sentence. In the large majority of cases, these cats will live normal life spans and eventually die from age related conditions. However, some may occasionally show clinical signs such as anaemia and lethargy but these may be very intermittent and the cat may recover perfectly well from such episodes without any veterinary intervention – in fact they may be so fleeting that the owner doesn't become aware of them. It will though, be prudent to have any clinical signs checked out by your vet (who should be made aware of the cat's **PK Def** status) so that intervening treatment can be given. **These positive cats should ideally not be bred from and should be homed as pets**, though exceptional circumstances may require them to have a litter to preserve a breeding line.

Carrier kitten – These kittens will never display clinical signs of PK Def as they merely carry the gene which could be passed onto their kittens. As pets, these carrier cats will **never become ill with PK Def**. These carrier cats however can be very important in a breeding programme when a line needs to be preserved and ideally should be mated to a Clear Cat.

Clear kitten – These kittens will never display clinical signs of PK Def and when mated to another clear cats, will only produce clear kittens. These cats are the most important group to enable the breed to eventually become clear of PK Def.

When buying your kitten it is a good idea to check that the parents have been tested and that you are freely offered sight of the test certificate before committing to purchase the kitten. If either parent has tested Positive or is a Carrier, then it will not be unreasonable to ask for the kitten to be tested before committing yourself. Any responsible breeder will have already done this or be willing to have the test done. However, these tests may have been done early on in the kitten's life to enable the breeder to plan if they wish to keep one for breeding and it may have been too soon to have microchipped the kitten prior to the swab test, so to ensure that your kitten status is as stated by the breeder, it may be prudent to ask for the kitten to be tested again though this additional test may be at the purchaser's expense. However as it is a one off test for life, it will be a small price to pay to know the kitten's status. If both parents are tested as Clear then the kittens will also be clear so in this case if you wish to have the kitten tested as well, the purchaser may be asked to fund the cost of such a test. If you are considering buying a kitten for breeding then it is especially important that you know the kitten's status.

The Future

It is hoped that with carefully planned breeding programmes and testing, the Singapura will eventually be declared free of PK Def. Verified results of some individual cats have been made public on an online database at [Pawpeds](#) and we hope more will be added, but in the meantime if you are buying a pet:-

**REMEMBER, A CARRIER KITTEN IS AS HEALTHY AS A CLEAR KITTEN
IT WILL HAVE NO HEALTH ISSUES FROM PYRUVATE KINASE DEFICIENCY**