

Severe Combined Immunodeficiency (SCID): An affected foal is born with a severely weakened immune system. Because the foal's natural defense system against infection is not functioning properly, by the time they are five months or so of age, they generally die of an opportunistic infection (such as pneumonia) or they are euthanized.

SCID is known to be an autosomal recessive trait. "Autosomal" means the trait is not sex linked, and "recessive" means that in order for a foal to be affected, it must have 2 copies of the mutated allele, receiving one copy from both the sire and the dam. In 1997, a genetic test became commercially available to determine both SCID affected foals and SCID carrier horses. The use of this test allows people to avoid ever breeding an affected animal, and it also allows breeders the opportunity to make an informed choice to breed or not breed a carrier, as they may choose.

Test kits can be ordered through FOAL for a discount of \$99/test:
Marguerite Illing, Treasurer
853 Cooley Road
Parksville, NY 12768-5336
<http://www.foal.org/user/orderkit.pdf>

Or, test kits can be ordered directly from VetGen with a sliding cost scale:
<http://www.vetgen.com/equine-ordering.html>

FOAL also has a voluntary listing of VetGen SCID tested horses - this list includes clear, carrier and affected animals. Interested owners should contact FOAL for information on submitting test results to the database.
<http://foal.org/user/SCID%20List%20APRIL%202,%202008.pdf>

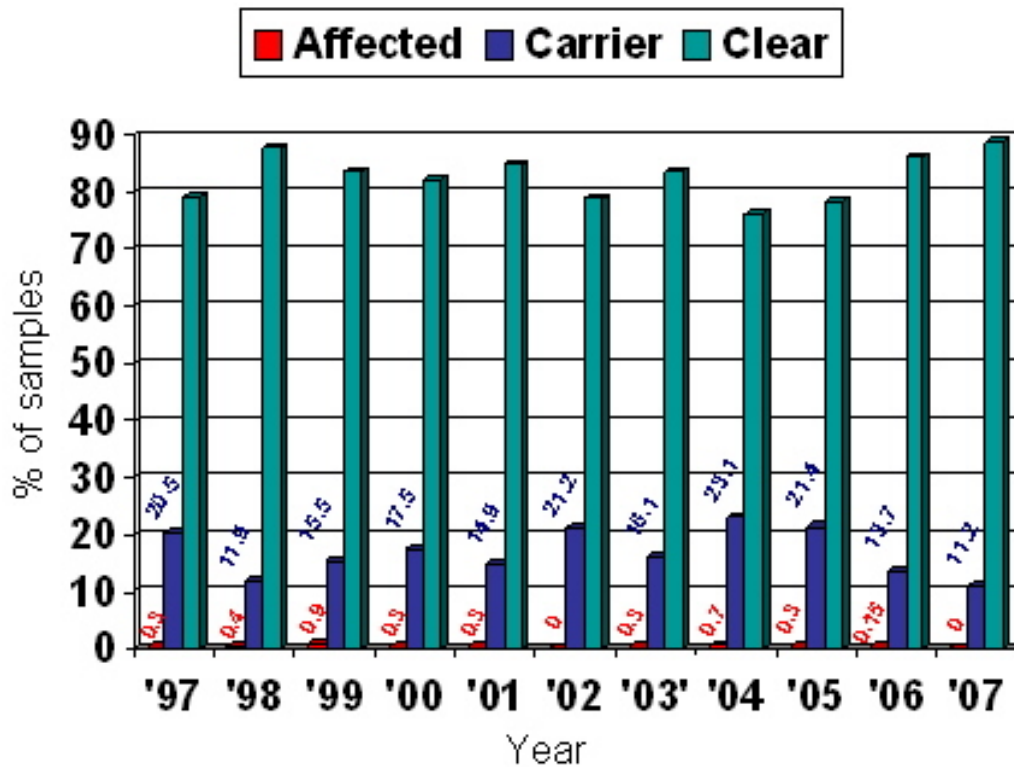
It is important to note that SCID has appeared in virtually all modern bloodline groups and it appears to be distributed throughout the breeding population. Therefore, owners should not assume their horses are "clear" unless the horses have been tested or are known to have immediate ancestors who have all tested clear. SCID is also not limited to only purebred Arabians; the mutated allele can be passed on by purebred Arabians used outside of purebred breeding programs.

Prior to SCID testing becoming available in 1997, SCID carrier estimates ranged from 8% – 25%. From the start of testing in 1997 through May 2, 2007, VetGen, Inc. has tested ~7,700 horses with 17% testing as SCID carriers and 0.3% testing as affected. [see figure 1] Although this is not a truly random sampling, it does provide a snapshot of the prevalence of SCID in the Arabian gene pool.

It is important to note that the number of affected foals in these figures is based only on those foals tested by VetGen (it does not include SCID affected foals who did not have samples submitted to VetGen for testing). As such, the total

number of affected foals born is expected to be higher than the number tested by VetGen. It is extremely important to remember the number of affected foals born in any year is directly related to the number of carrier to carrier matings made. With a test now available, breeding two carriers together can be avoided and the goal is to have ZERO affected foals born.

For additional information and reference materials on SCID:
<http://www.vetgen.com/equine-references.html>



Affected rates apply only to those foals tested by Vet Gen, this does NOT reflect all affected foals born

Figure 1: Results of VetGen SCID Testing through May 2, 2007

Information compiled and written by Beth Minnich.