

# Blood sample collection using TEGO™ animal blood collection kit

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## Introduction

The TEGO™ animal blood collection kit represents a safe alternative for livestock blood sample collection. Current blood sampling techniques involve sampling via the animal jugular, ear or tail vein with a straight needle thus putting the animal handler and animal at risk for potential needle stick or other injuries. The TEGO™ kit reduces this potential risk, as well as provides an ergonomic improvement for the animal handler. The kit consists of a plastic housing containing retractable sharps that provide a safe way to create a bleed from the animal's ear and an absorbent card on which the blood collects. The kit fits on standard ear tag applicators, which facilitates applying the device and clamping down on the ear to create a small cut. Following application, the sharps self retract for safety. The kit remains on the ear while the blood is flowing onto the absorbent card and is then easily removed. The blood saturated card slides smoothly out of the plastic housing and is placed in a specialized individual envelope. Several of these individual envelopes fit in a regular mailing envelope, and can be mailed via ordinary post to the test laboratory. The TEGO™ blood collection cards provide the added benefit of eliminating the centrifugation step required to separate plasma and the ability to pack and ship without the use of coolants. The blood sample card can be used for testing when it arrives at the lab or stored for testing later.

## Validations

The TEGO™ sample card media has been validated for swine genetic testing and antibody testing. For genetic testing, DNA extraction has been accomplished by using two industry standard methods: Qiagen DNeasy 96® Tissue Kit and Omega Bio-Tek EZ 96® Blood DNA Kit; RNA extraction has been achieved by using Applied Biosystems Ambion® Magmax™ Viral RNA Isolation kit. In addition, DNA and RNA were successfully extracted using several private laboratory proprietary methods optimized to work in concert with in-house test methods. In optimizing the TEGO™ card, laboratories determined the optimal sample media punch size, number of punches, and extraction methods to use with their tests.

Some examples of genetic testing performed on TEGO™ swine samples include:

1. PCR for the *ryr* gene amplified (Porcine Stress Syndrome (PSS) marker)
2. Swine Performance Trait Testing: two litter size genetic markers - Erythropoietin (EPOR) and Estrogen Receptor (ESR)
3. Sequenom SNP Genotype Testing, using 24 USDA parentage SNPs
4. Detection of PRRSV by real time PCR (commercial labs)
5. PRRSV PCR - Applied Biosystems AgPath-ID NA & EU PRRSV Multiplex (Iowa State VDL)

PRRSV antibody testing was performed on swine samples with IDEXX Laboratories' HerdCheck® PRRS 2XR ELISA.

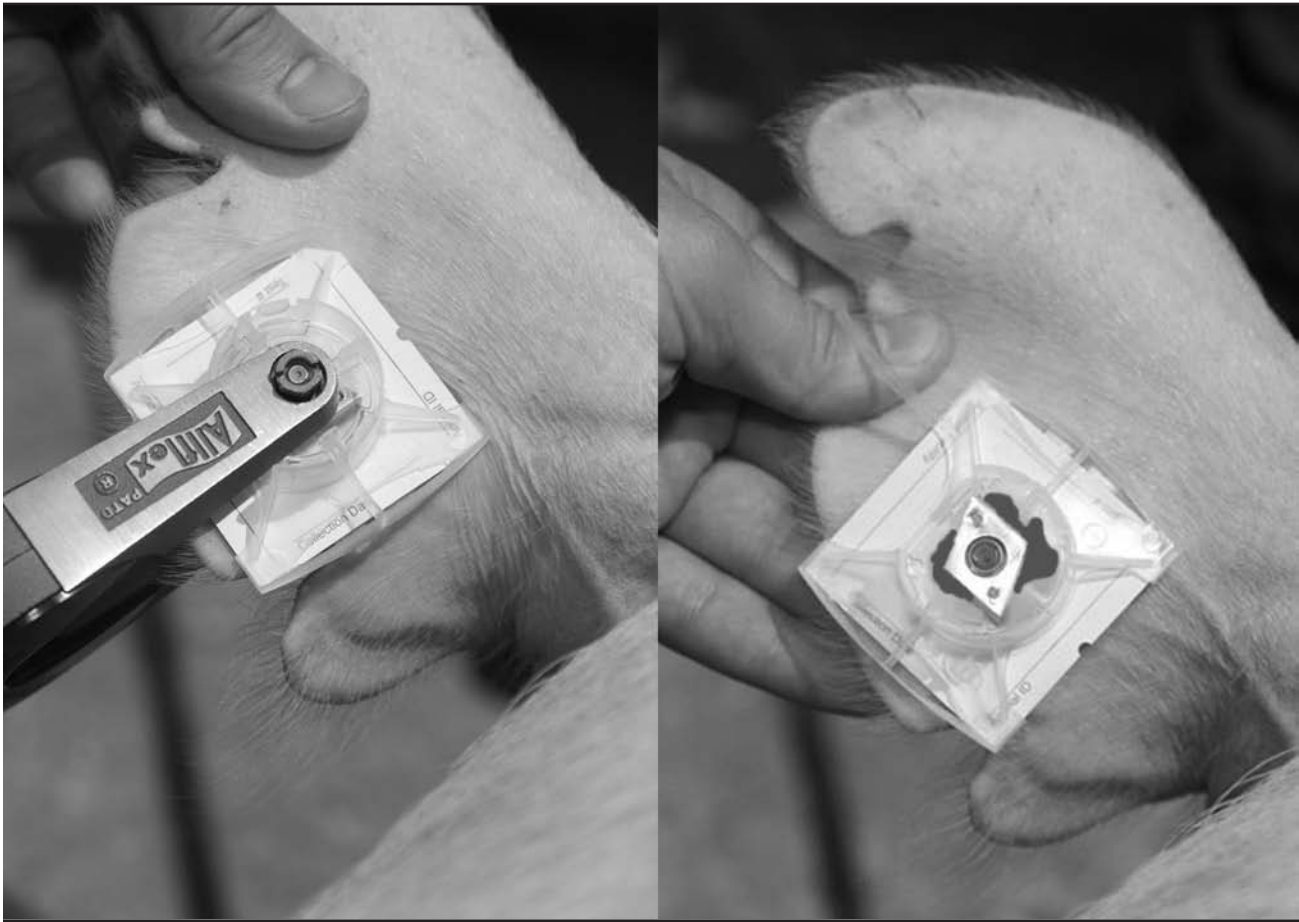
The PRRSV testing was performed in both an experimental phase, as well as a field trial. The experimental phase included 26 swine: 6 in the control group, 10 swine inoculated with a North American strain and 10 with a European strain of PRRV. The field trial included 240 swine samples collected from three different populations: positive, negative and unknown. Additional PCR and ELISA disease tests are being validated with the TEGO™ animal blood collection kit. Updates are continually available on the website: [www.itlanimalhealthcare.com](http://www.itlanimalhealthcare.com). Study results data for the validations completed above will be discussed in an oral presentation by Dr. Yoon titled: *Experimental and Field Trial of TEGO™ Animal Blood Collection Kit for PRRS Testing*.

## Summary

The TEGO™ animal blood collection kit provides a total sampling solution for genetic and antibody testing. It is safe for both livestock and the animal handler reducing the risk for potential needle stick or other injuries, while providing an ergonomic improvement for the animal handler. The TEGO™ kit, an all-in-one sampling system, simplifies the blood collection process without compromising sample integrity. The TEGO™ animal blood collection kit also offers an efficient sample source resulting in cost-savings in shipment and

**Figure 1:**

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storage of the blood samples. TEGO™ animal blood collection kit provides a safe, efficient and cost-effective blood sampling solution for veterinarians, animal handlers, producers and laboratories.

