

## THE IMPORTANCE OF TESTING FOR IgG IN NEWBORN FOALS

Foals are born with little or no circulating immunoglobulins. Therefore, they are without protection against challenge from invasive microorganisms or other antigenic substances. The passive transfer of immunity occurs after birth via ingestion and absorption of colostrum. Up to 20% of newborn foals experience a partial or total failure of passive transfer, and these animals are at high risk of serious illness or death. Failure of this passive transfer can occur as a result of premature lactation, deficient suckling, malabsorption or low IgG levels in colostrum.

An IgG test can identify if a failure of passive transfer has occurred or not. This test detects the levels of IgG in the blood which are indicative of the success or failure of the passive transfer. An adequate level of IgG is 800 mg/dl of serum or greater. Levels greater than 400 mg/dl indicate a normal passive transfer, however some of these foals may still be at risk. Levels between 200 and 400 mg/dl reflect a partial failure of immune transfer while levels of less than 200 mg/dl suggest a total failure. IgG must be supplemented in these foals.

A rapid identification of low IgG levels is very important for the early initiation of treatment of immunodeficient foals. The initial testing should be done when the foals are about 12 hours old or as soon as possible thereafter. To determine the success of IgG supplementation, post-treatment is recommended.

### SAMPLE PREPARATION

Blood, serum or plasma samples can be used with the similar procedure. A blood sample can only be used if the test is run within 10 minutes after it is collected. A plasma sample collected into a purple vacutainer tube can be run immediately or later.

Samples should be labeled with the name or number of the foal and the date collected.

### TEST PREPARATION AND NOTES

Take samples and kit solutions out of refrigerator 20 min before running test. Use a timer while performing the test. Label each cup to be used with the foal's name or number and label each dilution bottle after adding the sample.

### OTHER IMPORTANT TIPS:

- Store kit in Refrigerator.
- Always reseal the Zip Loc bag after removing a test cup.
- Timing during Step 4 (the addition of the Enzyme solution from red cap to the test cup) IS VERY IMPORTANT - ONE (1) MINUTE
- Never exchange reagents or test cups between different kits.
- Throw away the unused diluted sample after the test was run.

### INTERPRETING THE RESULTS

Color Results	Interpretation
<b>Bright Blue C1</b>	A dark blue C1 color indicates IgG levels of 800 mg/dl or more.
<b>Light Blue C2</b>	Light blue (C2) color indicates IgG levels 800-400 mg/dl depending on color darkness. Supplementing IgG is optional.
<b>Faint Blue C3</b>	A faint blue color (between C2 & C3) indicates 400-200 mg/dl. Supplementing IgG is necessary.
<b>White C4</b>	A trace blue color or white cup (C4) indicates IgG levels less than 200 mg/dl. Supplementing IgG is necessary.

# Immuno Chek-G Instructions

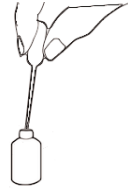
## PROTOCOL

### TEST PREPARATION

Take a test cup and kit solutions out of the refrigerator 10 minutes prior to using.  
Use hand to warm cup and solutions to room temperature.

# 1

Invert sample 2X to mix. Using a new pipette, add 1 drop of foal's serum or plasma or 2 drops whole blood to one dilution bottle. Cap and invert vial to mix.



# 5

Fill cup with WASH solution from the White CAP BOTTLE with WHITE LABEL.



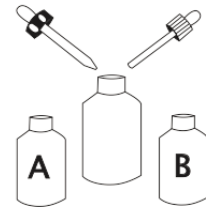
# 2

Label bottle with foal's name. Using a new dropper, **add 8 drops** from this labelled bottle to the center of the cup.  
WAIT 2 MINUTES.



# 6

Prepare fresh substrate solution by adding one dropper EACH (filled to the mark) of **A** and **B** into empty MIX bottle. Shake the MIX bottle well.



# 3

Add **3 drops SAMPLE WASH** (white cap bottle with RED LABEL).  
Wait for liquid to drain.  
Repeat this step 1X for serum or plasma.  
(Repeat 2X for whole blood)



# 7

Add **3 drops FRESHLY** prepared substrate from the Mix bottle to the center of the cup.\*



\*Throw out any unused solution in the blue mixing bottle after 30 minutes, since the substrate decomposes. Save blue mixing bottle for future tests.

# 4

Add **1 drop ENZYME** from the RED CAP bottle into the center of the cup and  
**WAIT ONE MINUTE** -  
Timing this step is important.



# 8

After **15 Minutes** record the color results:  
bright blue (C1) >800 mg/dl  
blue C1/C2 800-400 mg/dl  
light blue (C2) 400 mg/dl  
faint blue (C3) 200 mg/dl  
white (C4) <200 mg/dl

