

Total Canine Care™



BASIC BUTTERFLY NEEDLE BLOOD AND SERUM GUIDE

PREPARE SERUM IN 5 EASY STEPS



Created for:

MR Diagnostic Services LLC

Distributed by:

Breeders Technology Center
540 East Shady Lane, Neenah WI 54956

• Intended Use •

Total Canine Care™ Canine Basic Blood Handling Guide informs the user(s) the common practice on how to process your canines ' whole blood to serum. The higher quality canine serum the user collects, the more accurate and successful your serum-based testing becomes. This guide will detail the best practices and common issues when collecting and processing canine serum for testing purposes.

• Disclaimers •

- Treat all test sample(s) as potentially infections. User (or Purchaser) is responsible to observe all applicable local, state, or federal law and bear all risks therefor.
- Do not throw used sharps in the trash. User (or Purchaser) shall dispose all sharps in authorized waste containers, as identified by Users local trash removal services or health departments.
- Not professional advice; MRDS LLC best practice and common issue opinions are their own and do not constitute definitive advice. If User (or Purchaser) need canine phlebotomy advice, please consult with Users (or Purchasers) veterinarian.

• Waiver of Liability •

• In no event shall MRDS LLC be liable for any direct, indirect, punitive, incidental, special, or consequential damages whatsoever arising out of or connected with the use or misuse of any product purchased herein. The User (or Purchaser) agrees and acknowledge that any product purchased should be used at User (or Purchaser) own risk and you should assess the risk individual to User (or Purchaser) pet before purchasing any product or using any product with or on your pet. Before use of any product purchased herein, User (or Purchaser) should consult a veterinarian for potential medical issues your pet may face with the use of our product. The products sold herein are not meant to diagnose, treat, cure, or prevent any condition that may befall your pet. You assume all liability for the treatment of your pet.

• General Limits of Procedure •

- Carefully follow the listed procedure.
- Test results performed on expired kits are invalid. Do not use test kits beyond expiration date listed.
- This veterinary product is intended for veterinary use only for canine serum or canine plasma testing.
- Technical or procedural errors and irregular substances in samples can interfere causing erroneous, invalid results (common occurrence).

• General Precautions •

- **DO NOT** use kits past expiration.
- **DO NOT** remove cap of vacutainer tube as the pressure will be lost and it will not work. Do not use past marked expiration date
- **DO NOT** store outside of required storage specifications.
- **DO NOT** operate near heavy vibrations or on steep inclines.
- **DO NOT** operate in direct or artificial sunlight.
- **DO NOT** operate in dusty conditions.
- **DO NOT** reuse pipette tips when pipetting multiple samples.
- **DO NOT** discard used sharps in normal trash.

• Step 1: Drawing Blood using a Butterfly Needle •



1. **Prepare area** for test sample collection. Use alcohol wipe(s) to clean area. Use tourniquet to aid in venipuncture procedure.
**Use veterinary recommended standard phlebotomy venipuncture procedures when collecting.*
**Ensure all materials are at room temperature before use.*
2. **Insert the needle** into a vein by holding the wings. A blood flashback is a sign of successful venipuncture. If no blood is coming out, you are likely not in the vein. Use new needle and try again or seek advice from your veterinarian.

**Do not reuse needles if unsuccessful on first blood draw.
This increases your pets' chances for infection.*

• Step 2: Collecting Blood into Vacutainer •



1. **Hold the needle holder**, place the vacutainer tube into the holder, **puncturing the diaphragm to begin collecting.**
**Blood will not fill the tube until the vacutainer has been punctured by the needle within the plastic housing at the end of the tubing*
2. **Allow the vacutainer tube to fill to its preset volume**, once blood flow has ceased, remove the tube. Note that the vacutainer tube will not fill completely. **Mix the vacutainer gently after removal.**
3. After completion of blood collection, **gently remove needle from vein, slide the translucent yellow safety shield forward** with the other hand pulling the tubing backward until an audible click is heard indicating the needle is complete retracted and locked to avoid possible of needlestick injury.

Common ISSUES = In Red*

HELPFUL TIPS = In Green*

• Step 3: Let Blood Sit and Clot for 10 Minutes •



1. **Wait 10 minutes** for the blood clotting to occur in the centrifuge cup.

• Step 4: Centrifuge Blood for 10 Minutes •



1. **Place the sample** centrifuge cup **into the centrifuge**.

**To avoid damaging your centrifuge, balance the centrifuge by placing an equal volume water sample (or centrifuge counterbalance) across from the blood sample.*

2. **Start the centrifuge** and allow to **spin for 10 minutes**.

• Step 5a: Collect serum for testing •

1. After 10 minutes, you will see a clear separation of serum on the top of the sample.

**Quality serum will appear yellow or light pink in color, use this portion of the same for testing.*

If the sample is cloudy, blood red, or jelly-like, please continue to Step 5b.



Common ISSUES = In Red

HELPFUL TIPS = In Green

OPTIONAL Step 5b: Resolve Jelly-Like Serum •

1. Determine whether your serum is Jelly-Like.

**Quality serum will appear yellow or light pink in color.*

2. Try to **collect your serum** using your pipettor. If you pipettor cannot collect (or suck up) the serum due to the thick consistency, your serum would be considered Jelly-Like.

**If your serum is Jelly-Like, use the next steps to resolve your sample.*

3. Re-draw a fresh blood sample. **Insert the needle** into a vein by holding the wings. A blood flashback is a sign of successful venipuncture. If no blood is coming out, you are likely not in the vein. Use new needle and try again or seek advice from your veterinarian.

**Do not reuse needles if unsuccessful on first blood draw. This increases your pets' chances for infection*

4. Transfer **EXACTLY 1.3 mL fresh blood to the fill line**, in the optional-use anticoagulant lithium heparin tube.

**Skip 10-minute clotting time. No clotting time necessary. Continue to next step.*

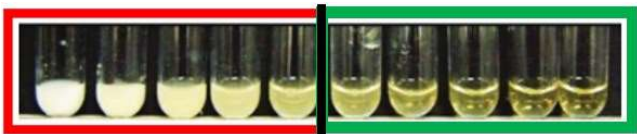
5. **Mix** by gentle inversion.
6. Place tube in centrifuge and **spin for 15 minutes**.
7. After spinning, **try collecting again**.
If you sample can be easily collected, stop here.



• Step 6: Treatment for Cloudy (NON-Jelly-Like) Serum •

Lipemia sample will appear cloudy and indicate the presence of fat in the serum and cannot be resolved by additional centrifuging or anticoagulant lithium heparin tube treatment. The best resolution for lipemia samples is to **fast your dog for 8-12 hours and redraw blood** (repeat steps 1-4).

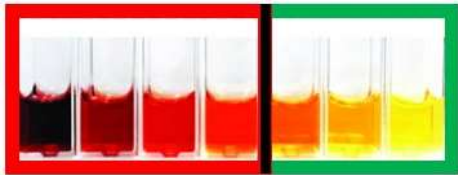
• **Example: Lipemia (Fatty Serum) Color Range** •



Not-recommended Jelly-Like Serum Consistency = **In Red Box**

Recommended Serum Consistency = **In Green Box**

• **Example: Serum Blood Hemolysis Color Range** •



Not-recommended Hemolysize Serum Consistency = **In Red Box**

Recommended Serum Consistency = **In Green Box**

• **Pink or Red Serum** in your sample (ie. Hemolysis) can happen if your blood draw ruptured your canine's red blood cells upon pulling back on the syringe. If your serum sample closely matches the colors in the red box below, please give us a call so we can better help you get your desired serum color; prior to testing. If your serum color matches the green box, your good to proceed

• **Total Canine Care™ Canine Blood Draw Kit** is designed for normal canine blood/serum collection. If after your canine has fasted for 12 hours the user has processed steps 1-5b for a second time and there is heavy evidence of lipemia in your sample, consultation is recommended by your veterinarian. This is very abnormal and may indicate a health concern for your pet.

• Warranty Disclaimer •

For animals only. Not for use in humans. Keep out of reach of children. Intended for veterinary use only. Do not freeze. Store at room temperature. Keep out of direct or artificial sunlight. User (or Purchaser) is responsible to observe all applicable local, state, or federal law and bear all risks therefor. User shall dispose of all sharps in authorized waste containers, as identified by User's local trash removal services or health departments. Please consult local phone or internet directories for the correct information and disposal guidelines. Do not dispose sharps in standard trash.

MRDS, as Manufacturer, warrants the kit for its intended veterinary product use and will replace any defect product purchased by User upon MRDS' receipt of timely written notice by User. This shall be Users exclusive remedy and User shall not be entitled to additional or further compensation or cost.

MRDS is not responsible for pre-existing conditions (even if manifest during use of the products), abnormal response to product use not caused by defect product including but not limited to, aggression, anxiety, and destructive and/or compulsive behavior. MRDS is not responsible if death or euthanasia occurs in your pet because of illness, injury or because of behavior or emotional disorder, including stress induced ovulation losses.

Total Canine Care™ is a trademark of MR Diagnostic Services LLC. Any use or misrepresentation without the prior written permission is strictly prohibited.

Copyright © 2023 by MR Diagnostic Services LLC

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of MRDS. The information in this document is correct at the time of printing. However, MRDS reserves the right to make any necessary changes at any time without notice as our policy is one of continuous improvement.