Platelet Surface
Associated IgG
Assay using flow cytometry

Argon lazer 488 nm
anti-dog IgG-FITC
emitted fluorescent light energy
\( \bullet = 530 \text{ nm} \)

PLT
PSIgG
Reagent = anti-dog IgG-FITC

emitted light \( \propto \) binding sites
fluorescence intensity
PSAIgG test in healthy dogs

PSAIgG Cut off
< 14% for normal dog samples that are ≤ 4 hour old
< 23% for normal dog samples that are ≤ 24 hour old
Case Example of Primary immune-mediated thrombocytopenia (IMT)

11 year old female spayed English Cocker
- episodic thrombocytopenia responsive to corticosteroid therapy
- 1,000/μl
- negative titers to tick borne diseases
  - RMSF, Lyme’s, Erhlichia
- normal coagulation profiles
- Mailed in sample
English Cocker – Primary IMT

Before treatment

<table>
<thead>
<tr>
<th>Size</th>
<th>Fluorescence</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOTYPE mAB</td>
<td>2%</td>
</tr>
<tr>
<td>mAb -dog IgG</td>
<td>39% Positive</td>
</tr>
</tbody>
</table>

After 10 days of Prednisone

<table>
<thead>
<tr>
<th>Size</th>
<th>Fluorescence</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOTYPE mAB</td>
<td>0%</td>
</tr>
<tr>
<td>mAb -dog IgG</td>
<td>14% Positive</td>
</tr>
</tbody>
</table>
Case Example of Secondary IMT

6 yr old male Labrador cross
Admitted to KSU (In house case)
- Fever (106 F)
- Mild anemia (HCT = 30%)
- 64,000/µl platelets
- Ataxia
- Acute titer to RMSF 1:128
- Convalescent titer to RMSF 1:2048
Dog with Rocky Mountain Spotted Fever

Before treatment

After 2 days of doxycycline
Dog recovered with treatment

Cold IV fluids and doxycycline
Responded to treatment by 48 hours
Sensitivity/Specificity of PSAIgG

- Sensitivity 87.5% (21/24 true positive)
  - 12.5% (3/24) false negatives
    - Causes of false negatives
      » Elution of antibody
      » Antibody against megakaryocytes or cytokines
      » Removal of antibody coated cells by the spleen

- Specificity 100%
  - 9/9 nonimmune cases
    - Myelophthisis due to lymphosarcoma
    - Neoplasia (sequestration or consumption?)

Time course development of thrombocytopenia and PSAlgG in dogs infected with *Babesia gibsoni*