



BBTS Annual
Conference 2016

Ortho BioVue

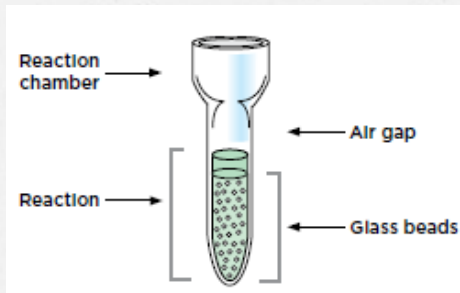
Yvonne Scott

Transfusion Manager

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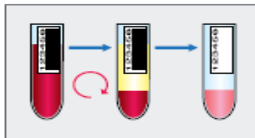
BioVue Column Agglutination Technology



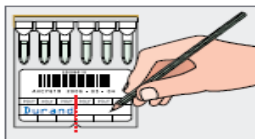
1. Visual control of the ORTHO BioVue® cassettes

- + Do not use reagents beyond their labeled expiration date.
- + Do not use cassettes that appear damaged (i.e., break in foil seal or break, crack or bubble in the column) or exhibit drying (i.e., liquid level is at or below the top of the glass beads) or exhibit discoloration (due to bacterial contamination which can cause false reactions).

2. Sample Identification and preparation



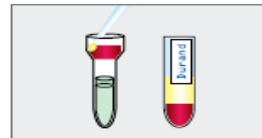
3. Cassettes Identification and preparation



4. Reagent pipetting



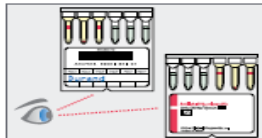
5. Sample pipetting



6. Incubation - Centrifugation



7. Reading



BioVue Technology

AutoVue
Innova or Ultra



Manual



VISION or
VISION MAX



Easy, Quick and Reliable

Reagents

ORTHO BioVue® Cassette Configuration Table

| NAME | 1 | 2 | 3 | 4 | 5 | 6 |
|--------------------------|-----------------------------|--------------|----------|----------|-----------------|-----------------|
| ABO-Rh/Reverse | Anti-A | Anti-B | Anti-D | Control | Reverse Diluent | Reverse Diluent |
| ABDD/ K | Anti-A | Anti-B | Anti-D | Anti-D | Anti-K | Control |
| ABO/ Rh | Anti-A | Anti-B | Anti-A,B | Anti-D | Anti-CDE | Control |
| ABODD | Anti-A | Anti-B | Anti-A,B | Anti-D | Anti-D | Control |
| Reverse Diluent | Reverse Diluent | | | | | |
| ABD Confirmation | Anti-A | Anti-B | Anti-D | Anti-A | Anti-B | Anti-D |
| ABO-Rh/ DAT | Anti-A | Anti-B | Anti-A,B | Anti-D | Control | Anti-IgG |
| DAT | Anti-IgG | Anti-C3b,C3d | Control | Anti-IgG | Anti-C3b,C3d | Control |
| Rh-hr | Anti-D | Anti-C | Anti-E | Anti-c | Anti-e | Control |
| Rh/K | Anti-C | Anti-E | Anti-c | Anti-e | Anti-K | Control |
| Kell/Control | Control | Anti-K | Control | Anti-K | Control | Anti-K |
| Kell | Anti-K | Anti-K | Anti-K | Anti-K | Anti-K | Anti-K |
| AHG Polyspecific | Anti-IgG, C3d, Polyspecific | | | | | |
| AHG Anti-IgG | Anti-IgG | Anti-IgG | Anti-IgG | Anti-IgG | Anti-IgG | Anti-IgG |
| AHG Polyspecific/Neutral | Anti-IgG, C3d, Polyspecific | | | Neutral | | |
| Neutral | Neutral | | | | | |



Red
Cells

Extended
Antigen
Typing -
RASCAT



The GOOD



- o BCSH compliant Reagents
 - o Homozygous for Rh, Fy^a, Fy^b, Jk^a, Jk^b, M, and S antigens
- o RASCAT
 - o No specific cassettes required (Neutral, Reverse Diluent, IAT)
 - o Automated - reduces wastage and cost
- o Other manufactures reagents
 - o Increases antigen profile (NHSBT, Immucor)
 - o Antisera (Lorne)
- o Sensitive and Specific

Automation

Option to facilitate
serial dilutions
(Titration)



Ability to select
individual panel cells
(Antigen specific)



Ability to load IAT &
enzyme panels together
(using 0.8% Reagents)



Easy Maintenance



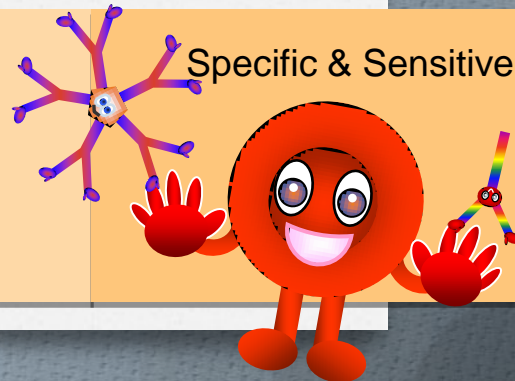
Easy Operation



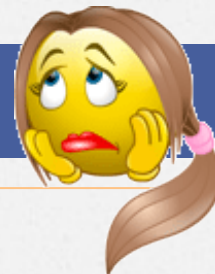
Reflex Testing



Specific & Sensitive



The BAD



- o 'Clash' of antigen profile
 - o Occasional (S and M antigens on our current panel)
- o Detects Anti-Le^a and cold reacting Anti-M
- o False positives
 - o Positive Anti-D (Control positive) – Positive DAT can affect the reagent (normally very high titre antibodies)
 - o DAT Screens using poly/IgG cassettes can be too sensitive
 - o Non-specific antibodies found occasionally
- o Mix Field reactions
 - o Need at least 80% of second population to detect.....is this bad?

False Positive Reactions

Anti-D Reagent

- o Positive DAT can affect the Anti-D reagent giving false positive D Type
 - o Not common in our lab
 - o 3+ or less reaction
 - o Control positive
 - o Good protocols required
 - o Transfusion History

DAT Screen

- o Poly/IgG IAT cassettes optimised for IAT antibodies
 - o Poly (Dextran), IgG (PEG)
 - o Will detect DAT red cells coated with non-specific bound IgG
 - o Good for screening but report using
- o DAT anti-IgG, anti-C3b,C3d, control specific cassettes (Dextran, optimised)
 - o Reaction strength not always representative of the clinical situation
 - o Drugs
 - o Monoclonal antibodies
 - o Immune Therapies

Non Specific Antibodies

- o No single method will meet all blood grouping serologists requirements
 - o Sensitivity (typically >99%)
 - o Specificity (typically >98%)

specificity



sensitivity

Mixed Field Reactions

- Sample Preparation
 - Mixed or packed cells
- Analyser
 - Height of aspiration
 - Age of donor cells
 - Time to analysis post centrifugation
- Mechanical
 - How tight are the binding micro-spaces
- Centrifugation
 - At which point to detect
- IPS software
 - Trade off non-mixfield (0.5 to 2+) or mixfield (MF)



Different



Talk

All have good
and bad points



Look

How best to run
your lab



Take note

Good Protocols

**Know how your
Technology works**



Thank You
Thank You
Thank You!!!!

Most disagreements are
caused by different
perceptions that created
different realities.