

Montana Laboratory News

SUMMER 2017



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Vacant

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Welcome Summer!

As you soak up the sun these next couple months I hope you can relax and enjoy this latest edition of the Montana Laboratory News from ASCLS-MT. We are gearing up for the national meeting in Chicago the end of July and look forward to a wealth of amazing information and topics to share with you all. As we just elected our new board members this Spring, I thought we'd share a column every now and then and let you know what these great members do to support our society. Check out the spring meeting photos, some education from ARC, and lots more! Thanks for reading!

The Presidential Office:

The office of President is a one year term following the completion of a one year term as President-Elect. As president you report to the Region VIII director and ASCLS National Organization. It is their responsibility to report what activities have been completed or taken place and disseminate to the state members any information that is related to our profession or membership announcements that need to come from the board of directors.

Once the president has taken office it is their responsibility to appoint any positions that have been vacated or were left unappointed to the board of directors. The work compiling this list of people usually takes place at the end of her year as president-elect. The president is responsible for providing board members their position description and guidelines for completing their duties as well as a short board orientation at Montana's annual meeting and a conference call for additional orientation in the fall. The fall orientation reviews duties and allows the new members to create timelines for themselves and outline their responsibilities to the president.

The president is responsible for leading meetings of the board of directors throughout the year. For Montana there are four meetings, one in the fall usually October or November, winter usually in January, spring meeting at Montana's annual convention in April, and summer meeting in June. At the beginning of the term the president works with the past-president and president-elect to determine goals and how to accomplish them throughout the next year. There is constant communication between these three positions because often times the president is taking over where the past-president left off and president-elect is working on developing the platform and goals for her year as presidency, keeping the momentum from year to year. All of this work is based off of the state and national strategic plans. The work takes place within the first several months as committees are created if needed at the first board meeting and board members are assigned their responsibilities for goal completion.

Bylaws

Vacant

Government Affairs/**PAC Coordinator**

Adam Birks

abirks@krmc.org

Liaison for Students

Vacant

Finance and Audit

Lana Hamilton

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406-251-3456

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Trish Smith-1st Year

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Vacant-2nd Year

District Chairpersons**District I**

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District V

Lana Hamilton 6405 S.

Meadowwood

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Between the fall and spring meeting work is completed and if anything needs to come to general membership for vote it will be ready for the state convention. The summer meeting is generally reserved for board retreats or leadership activities and preparation for national convention.

The president is responsible for making sure that there are representatives to Legislative Days in March, advocating and lobbying for laboratory issues with state representatives.

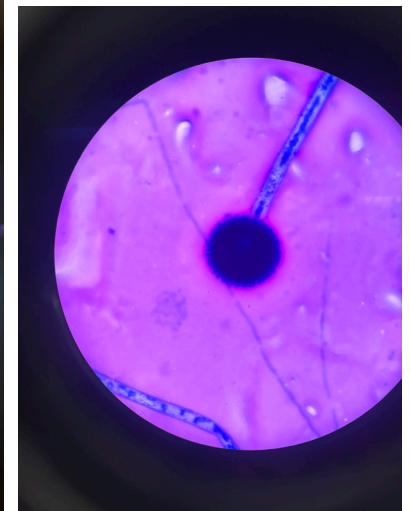
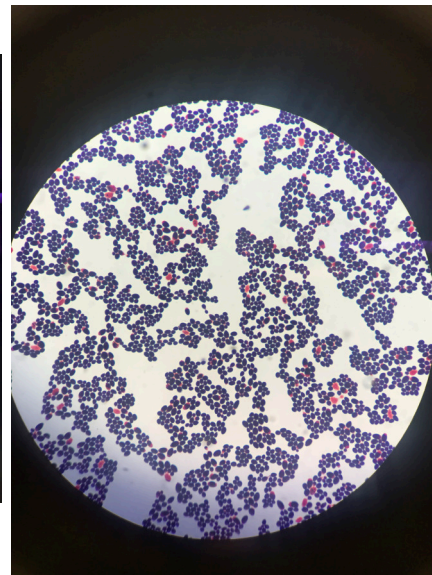
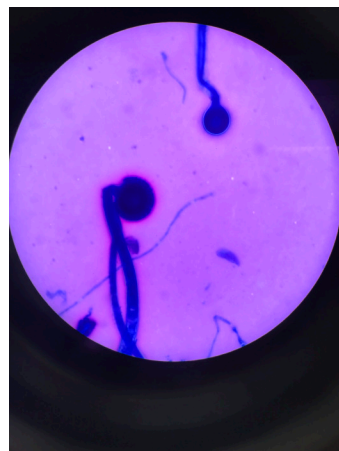
At the spring meeting the president is responsible for presiding over the Annual General Business Meeting by setting the agenda, election of officers, and delegates to the national meeting. He/she also presides over the installation of newly elected officers.

At a regional level she represents Montana on the Region VIII Council and attends Regional Council meetings, via phone conferencing or in person at IMSS or National Annual Convention, providing input and taking part in the decisions that affect the region, state, and council. Attendance to Intermountain States Seminar expected.

At the national convention it is the responsibility of the president to make sure that there is a full delegation at the House of Delegates and that each member of the delegation is credentialed and are knowledgeable and informed of the issues up for vote at the House of Delegates. Attendance is required by the president and delegation to attend the Region VIII caucus where all members are able to attend to discuss the members up for election and discuss those items up for vote at the House of Delegates.

Reports are sent quarterly to the Region VIII Director and a yearly report to the ASCLS House of Delegates. The president is also responsible for contributing written information to the Montana Laboratory Newsletter throughout the year when necessary. They are responsible for submitting applications for national and regional awards and recognition, providing recommendations for appointments to national committees, encouraging other members to sign up for volunteer opportunities on the ASCLS website.

The term for President is one year and involves many rewarding activities and responsibilities to make our state society successful. The board has many opportunities and we invite anyone interested in supporting our society no matter how big or small to join us and run for office!





ASCLS-MT 2018

Circulation

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Nominations Committee

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Del Simon

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Region VIII Director

Holly Weinberg

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REGIONAL OMICRON SIGMA



PRESIDENTIAL INDUCTION
TORI RENSINK



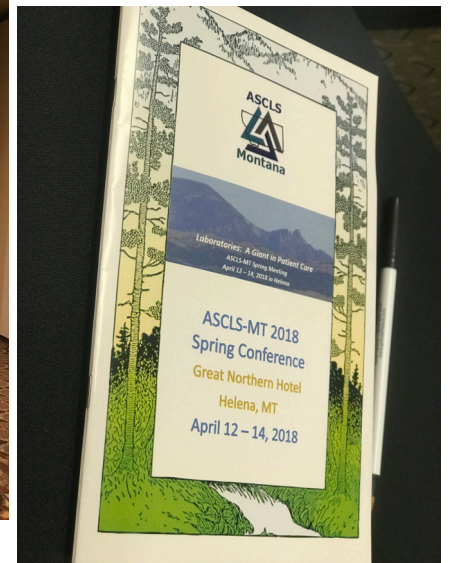
NATIONAL OMICRON SIGMA



STATE OMICRON SIGMA AWARDS



LONGEVITY AWARDS



Longevity Awards Annual Meeting 2018

Helena, MT



| | |
|-------------------|----|
| Kloser, Renee | 35 |
| Hamilton, Lana | 30 |
| Breigenzer, Audra | 30 |
| Bolles, Pat | 25 |
| Aus, Karla | 25 |
| Tichenor, Melinda | 20 |
| Walsh, Walter | 20 |
| Harvey, Eleanor | 15 |
| Kolar, Sarah | 15 |
| Bushmaker, Cara | 10 |
| Lubbers, Mark | 10 |
| Jakes, Doug | 10 |
| OConnor, Shelly | 10 |
| Ketchum, Ashlee | 10 |
| Davis, Alison | 5 |

National Omicron Sigma Awards

Susie Zanto
Maria Rodríguez

Regional Omicron-Sigma

Ashlee Ketchum
Abbey Wichman
Abou Drammeh
Joni Gilstrap

State Omicron-Sigma

Anne Weber
Amy Steinmetz
Kay Rasmussen
Tori Rensink
Trish Smith
Cara Bushmaker
Del Simon
Kelly Amidei

Student Member of The Year

Maria Rodríguez

Poster of The Year

Benjamin French



ASCLS MISSION

ASCLS Mission:

The mission of ASCLS is to make a positive impact in health care through leadership that will assure excellence in the practice of laboratory medicine.

ASCLS Believes:

- Quality laboratory service is essential to quality health care.
- Everyone deserves access to safe, effective, efficient, equitable, and patient-centered healthcare, and
- Advancing the laboratory profession advances health care.

ASCLS Core Values:

1. Defining the characteristics of competent personnel within the profession and providing professional development opportunities so that practitioners can maintain competency are essential roles of a professional association.
2. Enabling laboratory professionals to function at their highest level of competence will contribute to cost effective health care.
3. Promoting diversity supports the delivery of quality laboratory service.
4. Taking a leadership role in standard and policy setting is a core professional responsibility.
5. Advocating for quality within the laboratory is essential to the assurance of quality health care delivery.

2018 Strategic Plan

PURPOSE

To be recognized by our members as an organization of purpose, value to the profession, and involved in leading healthcare throughout the state and region.

KEY OBJECTIVES

| COMMUNICATION | LEADERSHIP/ MENTORSHIP | MEMBERSHIP | PROFESSIONAL DEVELOPMENT | ADVOCACY/ PROFESSIONAL PROMOTION |
|---|--|--|---|---|
| INITIATIVES | | | | |
| <ul style="list-style-type: none"> Member Community Newsletter - MLN Facebook Utilization Website | <ul style="list-style-type: none"> Recruitment of Leadership Academy participants for Region VIII and National. Provide Mentor at time of election Orientation of Board Members and Appointees. | <ul style="list-style-type: none"> Demonstrate value of membership. Promotion of Group Memberships Promote different levels of memberships. Retain Members | <ul style="list-style-type: none"> Advancing leadership through <ul style="list-style-type: none"> Leadership Academy Committee participation Board Members Continuing educational opportunities Succession Planning | <ul style="list-style-type: none"> State vigilance with licensure Strengthen relationships with state representatives Recognition for those who serve ASCLS. |

KEY PERFORMANCE INDICATORS

| | | | | |
|---|--|---|---|---|
| <ul style="list-style-type: none"> Provide written communication for MLN Contribute information for posting on Facebook Provide updated information to Website Member community participation | <ul style="list-style-type: none"> At least one in a Leadership Academy - Region VIII or National. Engagement of Board Members <ul style="list-style-type: none"> Meeting attendance Committee Participation Leadership representation evenly distributed throughout state | <ul style="list-style-type: none"> Increase membership by 10 each year. Increase of Student memberships to professional memberships Retain memberships | <ul style="list-style-type: none"> Provide at least one CE event a year. Full slate of Board Members Contested Elections Regional representation in committees or programs. | <ul style="list-style-type: none"> Meet State representative once or twice in MT Continued Legislative Days representation. Regular Communication of State, Regional, and National legislative actions to membership. Provide Legislative Update Session once a year. <ul style="list-style-type: none"> Ex. State Annual Meeting Ex. Webinar Awards or PSA's given to those who participate and serve. |
|---|--|---|---|---|



Welcome Summer!

As we welcome June and the warmer weather that comes with it, I want to share regional and national updates with all of you.

REGIONAL UPDATES

- As we look ahead to a new year, I am looking for volunteers for various positions to serve Region VIII.
 - We are looking for a new Co-coordinator for our Region VIII Leadership Academy. We discussed staggering the terms so the term is 3 years with a new co-coordinator coming on in year 3 of the current Coordinator. This allows for mentoring of the new LA Coordinator during the third year of the current Coordinator. Susie Zanto moved off of Coordinator role this year and Joni Gilstrap enters her third year on August 1. We need a new R8LA Co-coordinator to begin August 1.

If you are interested in serving as Region VIII Leadership Academy Coordinator, please let me know by July 20.



- Debbie Shell is currently Region VIII Treasurer with her first term ending in September and she was also recently appointed to the ASCLS Government Affairs Committee. Debbie is eligible to serve a second term as Treasurer and she is also willing to serve as our Region VIII GAC Chair. However, it's not ideal to serve as both Treasurer and Region VIII Government Affairs Chair so we need to identify either a Region VIII Government Affairs Chair who will communicate GAC happenings to our Region or a Region VIII Treasurer to be elected at the Fall Council meeting in September. **If you are interested or know of someone who might be interested in either of these opportunities, please let me know by July 20. Also, Debbie is happy to talk with anyone interested in either of these roles.**
- Planning is well underway for **2018 IMSS Family Reunion, September 27-29**. 2018 General Chair, Abbey Wichman and her planning committee members have been very busy putting together another excellent conference. We have an exciting scientific program with many great speakers - watch the IMSS website for updates and program listings. Conference planning is a great, team experience! If you would like to be part of the team planning this classic conference please speak up - **IMSS wants YOU!** 2018 Planning Committee members are: Abbey Wichman, MT, General Chair; Abbey Wichman and Holly Weinberg, MT; Program Chair; Hollie Bearce, ID, Publicity Chair; Mary Galindo, UT, Registration Chair; Rose Jordan, CO, Social Chair; Kelly Amidei, MT, Exhibits Chair; Diane Stumpf, ID, Sponsorship Chair; Gale Stevens, WY, P.A.C.E. Chair; Debbie Shell, ID, Finance Chair.
- P.A.C.E. Chair; Debbie Shell, ID, Finance Chair.
 - The 2017-2018 **Region VIII Leadership Academy** will be graduating our 5th class of interns in Chicago at the ASCLS Annual Meeting in July. This year's interns are Kami McGann, Idaho; Abbey Wichman, Montana; Tina Dihle, Colorado; and Abou Drammeh, Montana. We are excited to continue to offer this opportunity for ASCLS members in Region VIII! We are now accepting applications for our 6th Class to begin in Jackson on September 24. If you have any questions or would like more information, please contact Joni, jgilstrap@billingsclinic.org. or myself, roho281@aol.com. There are also links to the application packet on the ASCLS-Montana website and the Region VIII website, <http://asclsregion8.org/region-viii-leadership-academy/>.

NATIONAL UPDATES:

- Membership: I presented information at the state meeting in April regarding membership category and dues changes and will highlight a few items here. The changes the BOD approved at the March meeting are currently being put into place. The information on the ASCLS website has been updated and the new structure is being filled in for the renewal process. A detailed explanation of the policy changes approved by the BOD in March, and the bylaws changes that will be sent to the House of Delegates will both appear in the next edition of ASCLS Today. You should see that arrive in your mailbox within the next two to three weeks. Changes that are already in effect include: The PF1 and PF2 categories are combined into one Professional category; FYP category is now good for 5 years; Emeritus category is defined as the total of age plus number of continuous years of membership must equal 90. The NAMES of the categories will not change until they are approved by the House of Delegates in Chicago on August 2. The proposed name changes are:



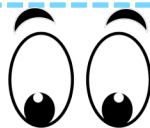
- PF1 and PF2 become Professional
- FYP becomes Ascending Professional
- Student becomes Developing Professional
- Emeritus becomes Platinum Professional
- Collaborative becomes Community Professional

There has been a lot of discussion across the organization regarding the naming of the categories. One thing to be aware of is that a big goal of the name change was to show that we are all professionals by including the term “Professional” in every category name. This will come to the HOD for a vote by all delegates present; if you have strong feelings about any of these names and suggestions for a different name, please speak up or make sure your delegates know your concern and have your suggestion ready to present.

- Government Affairs: The following are excerpts from EVP Jim Flanigan’s recent updates to the ASCLS BOD.
 - Workforce: There have been a number of promising developments in this area, thanks to CLIAC (*Clinical Laboratory Improvement Advisory Committee*). At its meeting last month, CLIAC made a number of recommendations for studies by the government, as well as recommending that the Department’s Secretary issue a recommendation to the US Department of Education to include lab science professions in science, technology, engineering, and mathematics (STEM) programming; issue a recommendation to request that Health Resources and Services Administration include Title VII funding to authorize resources to educational programs for laboratory professions experiencing a workforce shortage crisis, and create a plan and appropriate funding for a program within the Public Health Service Act to ensure training for citizens seeking to enter the clinical laboratories workforce.
 - PAMA: We are in a holding pattern at the moment. ACLA (*American Clinical Laboratory Association*) is seeing their lawsuit against the Secretary of Health and Human Services challenging the implementation of PAMA work its way through the federal courts. They expect to hear something in June. Meanwhile, we’ve been unable to find a way to move language we outlined during the Legislative Symposium
 - Annual Meeting: The Annual Meeting will take place at the Swissotel in Chicago, July 29 - Aug 2, 2018. The deadline for early bird registration is June 1 so if you haven’t registered yet, make sure you do that before June 1. Hotel rooms are filling up rapidly. ASCLS has contracted with a second hotel at a slightly lower room rate - the London House. It is about 2 blocks from the Swissotel. Next year the meeting will be in Charlotte, NC from June 23-27, 2019. Note that the meeting is moving up one month to June so we don’t conflict with AACC.
 - Mark your calendars for these annual events:
 - CLEC, Renaissance Hotel, Baltimore, MD, Feb 21-23, 2019
 - Legislative Symposium, Hilton Old Town Alexandria, VA, March 18-19, 2019
 - National Medical Laboratory Professionals Week, April 21-27, 2019
 - 87th ASCLS Annual Meeting, LeMeridian/Sheraton Hotels, Charlotte, NC, June 23-27, 2019

ASCLS and Region VIII offer so many opportunities to be involved and join your VOICE to make a difference. It was a wonderful experience attending the state meeting in Helena and seeing firsthand the hard work that so many of you put in to make this organization the very BEST! As we look ahead to a summer rich with outdoor activities, family reunions, etc., please remember to renew your membership now before you forget. Thanks to all of you for all you do for ASCLS and for Medical Laboratory Science!

Holly Weinberg, Region VIII Director roho281@aol.com



How well do you know the ASCLS Member Community?

One of the benefits of membership to ASCLS is the Member Community. When you pay your dues you are automatically signed up for the Montana State Society member community. It is here that you can connect with fellow Montana laboratorians through discussion, e-mail or posting an event. This is a great way to ask fellow ASCLS Montana member's questions or discuss hot topics. Also in the member community are individual communities specific for each of the scientific assemblies and other topics within ASCLS. If you hold specialty or an individual interest in any of the scientific assemblies or other communities join. They are a great way to connect with fellow ASCLS members that have your same interests.

The place to go is <http://connect.ascls.org/home> to familiarize yourself with the communities that are at your fingertips. Communities that have the blue "Join" tab on the right side are available for general members like you to join. There are numerous communities. Browse all communities and join a community that is of interest to you. Once you join a community make sure that you have notifications turned on so that you will receive notice of a posting. You are able to set notifications under "My Account" then "Community Notifications" to best suit your needs.

ASCLS UPCOMING EVENTS:

1. Laboratories: A Giant in Patient Care

ASCLS Annual Meeting and Exposition

July 29 - August 2, 2018 Chicago, Illinois

2. 55th Annual Intermountain States Seminar

2018 IMSS Family Reunion

September 27 - 29, 2018 Jackson Hole, Wyoming

3. CLINICAL LABORATORY EDUCATORS' CONFERENCE (CLEC)

Baltimore, MD

Performing Effective Antigen Exclusions on Panel cells using “Cross-Out” rules

Brought to you by The American Red Cross

Performing a Type and Screen on patients that have the potential to receive transfusions is the first step, in a multi-step approach, in determining if a patient has antibodies to red cell antigens and to find cross-match compatible units. If patients have been transfused in the past, or if they are female and have been pregnant, there is a possibility that they could produce an antibody to a red cell antigen. It is our job, as blood bankers, to identify these antibodies when the antibody screen is positive so that the patient can be transfused as safely as possible with the proper antigen negative blood.

Performing testing in accordance with manufacturer’s directions and properly interpreting results obtained in antibody testing is imperative in obtaining compatible blood for the patient. That’s why knowing how to properly perform antibody exclusion is so important. This process is often referred by many as performing antibody “rule-out” or “cross-out”.

Some of the aspects of properly interpreting a panel includes the following:

- Evaluating reactivity and non-reactivity
- Enhancements used
- Zygoty of cell lines used in the panel
- Reaction strength observed
- Determining if Dosage is observed

Typical 3-Cell Antibody Screen Panel

3-Cell Antibody detection sets usually offer red cells from presumed homozygous donors with double-dose

| D | C | c | E | e | Cw | K | k | Kpa | Kpb | Fya | Fyb | Jk a | Jk b | Lea | Leb | P1 | M | N | S | s | | IS | 37 | AHG |
|---|---|---|---|---|----|---|---|-----|-----|-----|-----|---------|---------|-----|-----|----|---|---|---|---|--|----|----|-----|
| + | + | 0 | 0 | + | 0 | 0 | + | 0 | + | + | 0 | + | 0 | + | 0 | + | + | 0 | 0 | + | | 0 | 0 | 0 |
| + | 0 | + | + | 0 | 0 | 0 | + | 0 | + | 0 | + | + | + | 0 | + | + | + | 0 | + | 0 | | 0 | 0 | W+ |
| 0 | 0 | + | 0 | + | 0 | + | + | 0 | + | 0 | + | 0 | + | 0 | + | + | 0 | + | 0 | + | | 0 | 0 | 2+ |

In this scenario we see that there are both positive and negative reactions. Based on this we can use the negative screen cell line to “cross-out” red cell antigens that are positive on this cell line.

| D | C | c | E | e | Cw | K | k | Kpa | Kpb | Fya | Fyb | Jk a | Jk b | Lea | Leb | P1 | M | N | S | s | | IS | 37 | AHG |
|---|---|---|---|---|----|---|---|-----|-----|-----|-----|---------|---------|-----|-----|----|---|---|---|---|--|----|----|-----|
| / | / | 0 | 0 | / | 0 | 0 | / | 0 | / | / | 0 | / | 0 | / | 0 | / | / | 0 | 0 | / | | 0 | 0 | 0 |
| + | 0 | + | + | 0 | 0 | 0 | + | 0 | + | 0 | + | + | + | 0 | + | + | + | 0 | + | 0 | | 0 | 0 | W+ |
| 0 | 0 | + | 0 | + | 0 | + | + | 0 | + | 0 | + | 0 | + | 0 | + | + | 0 | + | 0 | + | | 0 | 0 | 2+ |

The positive antigens that we “crossed-out” have a double dose expression of each antigen. For example, cells 1 and 3 have double dose expressions (E-,e+) for the e antigen. Double dose antigen expression occurs when an individual is homozygous for the gene that encodes the antigen. If the cell line was (E+,e+) then this would be considered to express only a single dose expression for each antigen. Single dose expression occurs when an individual is heterozygous for the gene that encodes the antigen.

This is important to note because some antigen groups such as the RH, Duffy, Kidd and MNS groups can show dosage in their reactivity. Each antigen that we crossed out in the first cell line has a good degree of certainty that an antibody to those antigens are not present in the patient’s plasma because double dose cells have more antigenic sites for that antigen than a single dose cell.

Also, we want to make note of the reaction strength that we have recorded. There could potentially be multiple antibodies present, or there could be only one antibody that is showing dosage. It is imperative to run more cells.

Typical Red Cell Panel

| D | C | c | E | e | Cw | K | k | Kpa | Kpb | Fya | Fyb | Jk a | Jk b | Lea | Leb | P1 | M | N | S | s | | IS | 37 | AHG |
|---|---|---|---|---|----|---|---|-----|-----|-----|-----|------|------|-----|-----|----|---|---|---|---|--|----|----|-----|
| + | + | 0 | + | + | 0 | + | + | 0 | + | + | 0 | + | 0 | 0 | + | + | 0 | + | 0 | + | | 0 | 0 | 0 |
| + | + | 0 | 0 | + | + | 0 | + | 0 | + | 0 | + | 0 | + | + | 0 | + | + | 0 | 0 | + | | 0 | 0 | 2+ |
| + | 0 | + | + | 0 | 0 | 0 | + | + | + | + | + | + | 0 | 0 | + | + | + | + | + | + | | 0 | 0 | 0 |
| + | 0 | + | 0 | + | 0 | 0 | + | 0 | + | 0 | 0 | + | 0 | 0 | + | + | + | + | 0 | + | | 0 | 0 | 0 |
| 0 | + | + | 0 | + | 0 | + | + | 0 | + | 0 | + | + | 0 | 0 | + | + | + | 0 | + | 0 | | 0 | 0 | 0 |
| 0 | 0 | + | + | + | 0 | 0 | + | 0 | + | + | 0 | 0 | + | 0 | + | 0 | 0 | + | 0 | + | | 0 | 0 | 2+ |
| 0 | 0 | + | 0 | + | 0 | + | + | 0 | + | 0 | + | 0 | + | + | 0 | 0 | 0 | + | 0 | + | | 0 | 0 | 2+ |
| 0 | 0 | + | 0 | + | 0 | 0 | + | 0 | + | + | 0 | + | + | + | 0 | 0 | + | + | 0 | + | | 0 | 0 | W+ |
| 0 | 0 | + | 0 | + | 0 | 0 | + | 0 | + | 0 | + | + | 0 | 0 | + | + | + | 0 | 0 | + | | 0 | 0 | 0 |
| 0 | 0 | + | 0 | + | 0 | 0 | + | 0 | + | + | 0 | 0 | + | 0 | + | + | 0 | + | + | 0 | | 0 | 0 | 2+ |
| + | + | 0 | 0 | + | 0 | 0 | + | 0 | + | + | 0 | + | + | + | 0 | + | 0 | + | 0 | + | | 0 | 0 | W+ |

We can use the cell lines with negative reactivity to rule out antigens that are positive for that cell line. We only want to rule out double dose cells first.

| D | C | c | E | e | Cw | K | k | Kpa | Kpb | Fya | Fyb | Jk a | Jk b | Lea | Leb | P1 | M | N | S | s | | IS | 37 | AHG |
|---|---|---|---|---|----|---|---|-----|-----|-----|-----|------|------|-----|-----|----|---|---|---|---|--|----|----|-----|
| / | / | 0 | + | + | 0 | + | + | 0 | / | / | 0 | / | 0 | 0 | / | / | 0 | / | 0 | / | | 0 | 0 | 0 |
| + | + | 0 | 0 | + | + | 0 | + | 0 | + | 0 | + | 0 | + | + | 0 | + | + | 0 | 0 | + | | 0 | 0 | 2+ |
| / | 0 | / | / | 0 | 0 | 0 | / | + | + | + | + | / | 0 | 0 | / | / | + | + | + | + | | 0 | 0 | 0 |
| / | 0 | / | 0 | / | 0 | 0 | / | 0 | / | 0 | 0 | / | 0 | 0 | / | / | + | + | 0 | / | | 0 | 0 | 0 |
| 0 | + | + | 0 | / | 0 | + | + | 0 | / | 0 | / | / | 0 | 0 | / | / | / | 0 | / | 0 | | 0 | 0 | 0 |
| 0 | 0 | + | + | + | 0 | 0 | + | 0 | + | + | 0 | 0 | + | 0 | + | 0 | 0 | + | 0 | + | | 0 | 0 | 2+ |
| 0 | 0 | + | 0 | + | 0 | + | + | 0 | + | 0 | + | 0 | + | + | 0 | 0 | 0 | + | 0 | + | | 0 | 0 | 2+ |
| 0 | 0 | + | 0 | + | 0 | 0 | + | 0 | + | + | 0 | + | + | + | 0 | 0 | + | + | 0 | + | | 0 | 0 | W+ |
| 0 | 0 | / | 0 | / | 0 | 0 | / | 0 | / | 0 | / | / | 0 | 0 | / | / | / | 0 | 0 | / | | 0 | 0 | 0 |
| 0 | 0 | + | 0 | + | 0 | 0 | + | 0 | + | + | 0 | 0 | + | 0 | + | + | 0 | + | + | 0 | | 0 | 0 | 2+ |
| + | + | 0 | 0 | + | 0 | 0 | + | 0 | + | + | 0 | + | + | + | 0 | + | 0 | + | 0 | + | | 0 | 0 | W+ |

As you can see on the first cell line we did not cross out E,e, or K, k even though they are positive for these antigens. This is because they are only expressing a single dose for each of these antigens. The genes are presumably heterozygous for the E or K alleles and could potentially be too weakly reacting to be showing reactivity.

After going through both panels tested and ruling out with the double dose cells first, we can rule out all antigens with at least 1 cell line except for Cw, K, and Jkb. The K antigen could be ruled out with single dose cells only. However, it is not a best practice to rule out using single dose cells unless you are using an enhancement media such as PEG or Gel. These enhancements sufficiently increase the sensitivity for proper binding of antibody to antigenic sites and allows macroscopic agglutination to be observed.

It appears that the antibody present is Anti-Jkb that is also showing dosage. The two cells that gave weak reactivity were single dose Jk(a+, b+) for the Jkb antigen. The cell lines that produced 2+ reactivity had a double dose Jk(a-,b+) of the Jkb antigen. That means a homozygous cell has at least double the antigenic sites for the antigen, in this case Jkb, then its heterozygous counterparts.

Our practice in the reference lab would be to run more cells that are Cw+, Jkb- and K+,Jkb- to rule out the Cw and K antibodies.

As always, I refer to the current edition of the AABB Technical Manual when looking for help and guidance.

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**Do you have news to share? An idea for the MLN?
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