

# Laboratory Bulletin

Important News from DCL Medical Laboratories



May 14, 2009

## Clarification from DCL regarding Weak D typing

Over the past few weeks DCL Client Services has fielded an increasing number of questions from clients regarding Rh Typing and weak D testing. Using AABB standards as a guide, DCL does not perform weak D testing. This Laboratory Bulletin is intended to clarify DCL's reasons for not performing weak D testing and assist clients in interpreting the results that we provide. If you have any questions regarding this Laboratory Bulletin, please contact DCL Client Services at (317) 874-1334 or toll free at (866) 874-1334.

Current AABB Standards for Blood Banks and Transfusion Services only require recipients' specimens to be tested with anti-D by direct agglutination. The testing for weak D is not required. DCL determines Rh typing by direct agglutination with anti-D monoclonal reagent (Immucor Anti-D Series 4 / Series 5). DCL does not do weak D testing if the direct agglutination test is Rh-negative for the following reasons:

- Current monoclonal reagents are more potent than previous polyclonal reagents. Thus most patients with weak D are found to be D+ with direct agglutination.
- Performing only the direct test avoids calling partial D as Rh-positive and causing risk for alloimmunization. Serologic methods cannot differentiate weak D types that are not at risk to develop anti-D vs. partial D that are at risk to develop anti-D.
- Performing only the direct test avoids false positive weak D results due to misinterpretation of the D type when red cells are coated with immunoglobulin in vivo (+DAT).

Discrepancy of Rh typing between laboratories can occur because of differences in standards of operation. DCL determines Rh type by direct test and does not perform the weak D test if the patient types as Rh-negative. Other laboratories may perform the weak D test after the direct agglutination types the patient as Rh-negative. Because blood donation centers do weak D testing on donor blood, the patient may type as Rh-positive as a donor, but type Rh-negative as a recipient. In addition, different reagents and technologies may affect sensitivity to detecting Rh-positivity.

### References:

Standards for Blood Banks and Transfusion Services. 25th ed. AABB, 2008

Brecher, ME. AABB Technical Manual. 16th ed. AABB, 2008

Domen, RE. Policies and Procedures Related to Weak D Phenotype Testing and Rh Immune Globulin Administration. Arch Pathol Lab Med 2000;124:1118-1121.

Denomme GA, Dake LA, Vilensky D, Ramyar L, Judd WJ. Rh discrepancies caused by variable reactivity of partial and weak D types with different serologic techniques. Transfusion 2008;48:473-478.

Noizat-Pirenne F. Weak D phenotypes and transfusion safety: where do we stand in daily practice? Transfusion 2007; 47:1616-1620.