**Polyethylene Glycol (PeG)**

Effective June 15, 2015 we will be replacing LISS as our additive with Polyelthylene Glycol (PeG). PeG has been found to be more sensitive in identifying clinically significant antibodies. PeG can be especially effective in warm autoadsorptions studies.

In developing the training for PEG I stumbled on a Wikipedia definition of “Potentiator”. A review of potentiators is great place to start our training exercise.

**Potentiator**

From Wikipedia, the free encyclopedia

In clinical terms, a **potentiator** is a reagent that enhances sensitization of an antigen. Potentiators are used in the clinical laboratory for performing blood banking procedures that require enhancement of Aggutination(biology) in order to detect the presence of antibodies or antigens in a patient's blood sample. Examples of potentiators include albumin, LISS (low ionic-strength saline) and PEG (polyethylene glycol).[1]  Potentiators are also known as enhancement reagents.

Albumin acts as a potentiator by reducing the zeta potential around the suspended red blood cells, thus dispersing the repulsive negative charges and enhancing agglutination. **L**ow **i**onic **s**trength **s**aline is a potentiator that acts by not only reducing the zeta potential, but also by increasing the amount of antibody taken up by the red blood cell during sensitization. LISS is a solution of glycine and albumin. **P**oly**e**thylene **g**lycol in a LISS solution removes water from the system and thus concentrates the antibodies present. PEG can cause non-specific aggregation of cells, thus eliminating the necessity for centrifugation after 37 °C incubation. PEG is not appropriate for use in samples from patients with increased plasma protein, such as patients with multiple myeloma. False-positive results may occur more frequently with the use of polyethylene glycol due to its strong agglutination capabilities.

\*1. Harmening, Denise M. (2005). *Modern Blood Banking & Transfusion Practices*. F. A. Davis Company.

Please read the Manufacturer Insert and the appropriate SOP. Complete the PeG Competency Quiz.