1. **Principle**

Sulfhydryl reagents such as DTT cleave the disulfide bonds that join the monomeric sub-units of IgM antibodies. DTT can be used to diminish or destroy IgM antibody reactivity, dissociate IgG antibodies from red cells (used in a combination with a proteolytic enzyme (ZZAP) and to destroy certain red cell antigens (i.e. Kell system).

1. **Scope and Related Policies**

All reagents prepared in-house that contain a controlled substance must be labeled with a workplace label as per WHMIS legislation. 9.1

1. **Specimen – N/A**
2. **Material**

**Equipment:** Balance

**Supplies:** Weigh boat

Test tubes

50 mL glass flask or beaker

**Reagents:** Phosphate buffered saline (pH 7.3)

DTT powder

1. **Quality Control**

The use of all equipment shall be based on manufacturer’s instructions. 9.2

1. **Procedure**

|  |  |
| --- | --- |
| * 1. 0.2M DTT | * + 1. Prepare 0.2 M DTT by dissolving 1 g of DTT powder in 32 mL of phosphate buffered saline (pH 8.0). |
| * + 1. Divide it into 1.0 mL aliquots and freeze at -18°C or colder. Label aliquots with a 6 month expiry. |
| * 1. 0.01M DTT | * + 1. Prepare 0.01M DTT by dissolving 0.154 g of DTT in 100 mL of phosphate buffered saline. |
| 6.2.2 Prepare only as required. |

1. **Reporting – N/A**
2. **Procedural Notes – N/A**
3. **References**
   1. WHMIS [www.whmis.ca](http://www.whmis.ca).
   2. CSTM Standards for Hospital Transfusion Services, ver 3 February 2011: 3.5.3.
   3. Fung MK Ed. Technical Manual 18th Edition. AABB Press Bethesda MD; 2014 Method (3-18).
4. **Revision History**

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| --- | --- |
| **Revision Date** | **Summary of Revision** |
| December 1, 2015 | * Revised name of manual * Added sections 2.0 & 5.0 * Added “pH 8.0” to section 6.1.1 * Changed 2.5 mL to 1.0 mL in section 6.1.2 * Updated list of references |