Beckman Coulter recommends that a diluent be run as a Body Fluid sample prior to analysis of Body Fluid specimens. Backgrounds within specifications can influence the reported results on the samples with low abnormal or normal values. Beckman Coulter recommends that each laboratory establish criteria for evaluation of the impact on the background on the reported results.

Table 1.14 Background - Body Fluids*

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>TNC</td>
<td>≤20 cells/mm³</td>
</tr>
<tr>
<td>RBC</td>
<td>≤1000 cells/mm³</td>
</tr>
</tbody>
</table>

* Analyzed by running a diluent using the Body Fluid Count cycle.

Table 1.11 Body Fluids (CSF, Serous, Synovial) Measuring and Operating Ranges

<table>
<thead>
<tr>
<th>Units</th>
<th>Measuring Range</th>
<th>Operating Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>RBC</td>
<td>cells/mm³</td>
<td>10,000–6,200,000</td>
</tr>
<tr>
<td>TNC</td>
<td>cells/mm³</td>
<td>20–89,000</td>
</tr>
</tbody>
</table>

Body Fluids Reference Ranges
Reportable body fluid results obtained from the DxH 800 System may exceed commonly accepted normal reference ranges for all body fluids. Results should always be interpreted in light of the total clinical presentation of the patient, including clinical history, data from additional tests, and other appropriate information.

Cerebrospinal Fluid
The inability to collect cerebrospinal fluid specimen in the normal, non-diseased population limits the ability to determine reference ranges. Literature (Kjeldsberg C, Knight J. Body Fluids: Laboratory Examination of Cerebrospinal, Seminal, Serous & Synovial Fluids. 3rd Ed., ASCP Press, Chicago, IL 1993.) suggests the following normal reference ranges.

• WBC 0–5 cells/mm³ in adults
• WBC 0–30 cells/mm³ in children 1 to 4 years of age
• WBC 0–20 cells/mm³ in children 5 years of age to puberty
• RBC none to few
Serous Fluids
The accumulation of fluid in a serous cavity is an indication of a disease state. The normal, non-diseased population has no fluid accumulation. Therefore, there are no normal reference ranges for serous fluids. However, the number of cells present in a serous fluid are used to aid in the classification, diagnosis and treatment of disease. (Kjeldsberg C, Knight J. Body Fluids: Laboratory Examination of Cerebrospinal, Seminal, Serous & Synovial Fluids. 3rd Ed., ASCP Press, Chicago, IL 1993.)

Synovial Fluid
The inability to collect synovial fluid specimens in the normal, nondiseased population limits the ability to determine reference ranges. Literature suggests the following normal reference ranges.

- WBC 0–150 cells/mm3
- RBC none

Sample Stability and Storage
Per established literature, Body Fluid samples should be stored at room temperature and analyzed within 1 hour of collection. IMPORTANT Refer to CLSIH18-A3, Procedure for handling and Processing of Blood Specimen for guidelines.

Overview
The following types of sample can be analyzed on the SPM.

- Anti-coagulated human whole blood in K2 or K3 EDTA
- Prediluted anti-coagulated human blood in K2 or K3 EDTA
- Human Cerebrospinal fluid (CSF)
- Human Synovial fluid in K2 or K3 EDTA or Heparin (pretreated with Hyaluronidase)
- Human Serous fluids in K2 or K3 EDTA

Body Fluids – (Pre-treating synovial fluids)
To reduce body fluid sample viscosity, use hyaluronidase to treat synovial fluids prior to analysis according to your laboratory standards. Add in the ratio of 1 mL of synovial fluid to 5 mg of hyaluronidase. Mix for 5 minutes.

Body Fluids – (Definition)
Fluids that are excreted, secreted, or derived form the human body. Some examples are: cerebrospinal fluid (brain and spinal cord), pericardial fluid (heart), peritoneal dialysis fluid (abdomen), peritoneal lavage fluid (abdomen), peritoneal tap fluid (abdomen), pleural fluid (lungs), and synovial fluid (joints).