**BNP and NT-proBNP**

<table>
<thead>
<tr>
<th>Biomarker</th>
<th>Normal Range</th>
<th>Risk Range</th>
<th>Heartfailure cut-off value</th>
</tr>
</thead>
<tbody>
<tr>
<td>BNP</td>
<td>14-63 pg/ml</td>
<td>64-99 pg/ml</td>
<td>&gt; 100 pg/ml</td>
</tr>
<tr>
<td>NT-proBNP</td>
<td>&lt; 100 pg/ml</td>
<td>101-400 pg/ml</td>
<td>&gt; 401 pg/ml</td>
</tr>
</tbody>
</table>

Values based on data from [1] and [2]. Average values are very dependent on age and lifestyle and thus a normal baseline should be established for each patient and the numbers interpreted by a qualified physician.

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**The silicon nanowire**

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**Functionalization**

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**Measuring NT-proBNP**

1) Only the target protein will bind to the antibody and affect the current in the nanowire

2) A binding event results in an immediate decrease in current. The larger the impact, the higher the NT-proBNP concentration