

## Biostatistics Report

### Distribution and correlation of PMN cell count and calprotectin levels

|           | N   | Median | Minimum | Maximum   | 25 - 75 P       | Normal Distr. |
|-----------|-----|--------|---------|-----------|-----------------|---------------|
| PMN       | 130 | 36.000 | 1.000   | 17820.000 | 8.000 - 110.000 | <0.0001       |
| ELISA Cal | 130 | 0.100  | 0.100   | 14.930    | 0.100 - 0.560   | <0.0001       |
| POC Cal   | 130 | 0.380  | 0.375   | 13.310    | 0.380 - 0.562   | <0.0001       |

PMN: polymorphonuclear cell count, ELISA Cal: Enzyme lined immunosorbent assay for ascitic calprotectin, POC Cal: Point-of-care test for ascitic calprotectin

#### *Correlation ELISA and PMN*

|  |                |
|--|----------------|
| Sample size                                      | 130            |
| Spearman's coefficient of rank correlation (rho) | 0.476          |
| Significance level                               | P<0.0001       |
| 95% Confidence Interval for rho                  | 0.331 to 0.599 |

#### *Correlation POC and PMN*

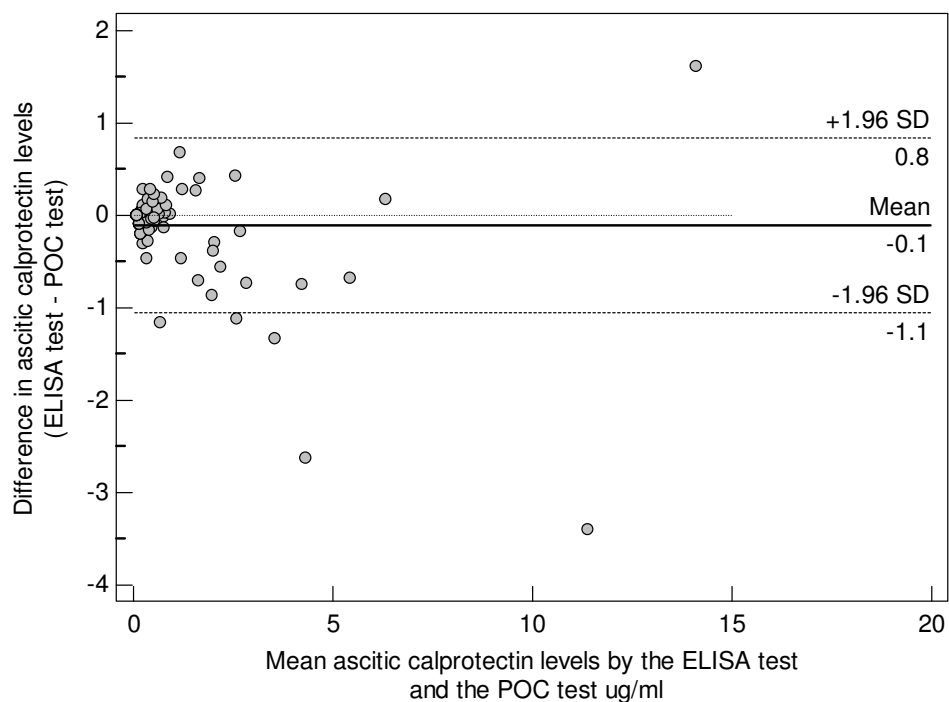
|  |                |
|--|----------------|
| Sample size                                      | 130            |
| Spearman's coefficient of rank correlation (rho) | 0.473          |
| Significance level                               | P<0.0001       |
| 95% Confidence Interval for rho                  | 0.328 to 0.597 |

#### *Correlation ELISA and POC*

|  |                |
|--|----------------|
| Sample size                                      | 130            |
| Spearman's coefficient of rank correlation (rho) | 0.873          |
| Significance level                               | P<0.0001       |
| 95% Confidence Interval for rho                  | 0.824 to 0.908 |

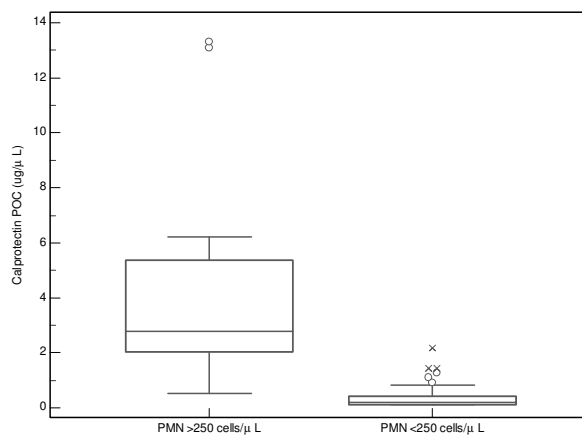
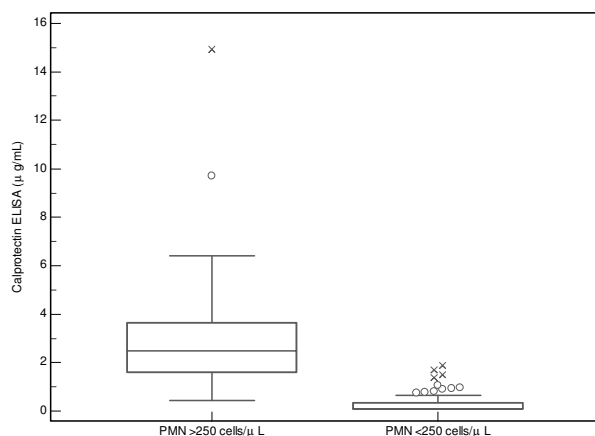
#### *Bland Altman Plot*

|                    |                     |
|--------------------|---------------------|
| Method A           | ELISA               |
| Method B           | POC                 |
| <b>Differences</b> |                     |
| Sample size        | 130                 |
| Arithmetic mean    | -0.1094             |
| 95% CI             | -0.1929 to -0.02581 |
| Standard deviation | 0.4814              |
| Lower limit        | -1.0530             |
| 95% CI             | -1.1961 to -0.9098  |
| Upper limit        | 0.8343              |
| 95% CI             | 0.6911 to 0.9774    |



### Diagnostic performance of calprotectin in ascites to detect PMN count >250/uL ascites

|              | PMN               |                      | ELISA            |                  | POC              |                  |
|--------------|-------------------|----------------------|------------------|------------------|------------------|------------------|
| PMN >250 /uL | 0                 | 1                    | 0                | 1                | 0                | 1                |
| N            | 111               | 19                   | 111              | 19               | 111              | 19               |
| Median       | 21.000            | 553.000              | 0.100            | 2.480            | 0.380            | 2.775            |
| Minimum      | 1.000             | 277.000              | 0.100            | 0.450            | 0.375            | 0.525            |
| Maximum      | 212.000           | 17820.00             | 1.880            | 14.930           | 2.175            | 13.310           |
| 25 - 75 Perc | 5.000 -<br>70.000 | 346.250 -<br>1857.50 | 0.100 -<br>0.360 | 1.612 -<br>3.653 | 0.380 -<br>0.410 | 2.047 -<br>5.372 |



# Receiver Operating Characteristics Analysis (ELISA)

|                                      |                         |                |
|--------------------------------------|-------------------------|----------------|
| Sample size                          |                         | 130            |
| Positive group :                     | PMN cell count >250 = 1 | 19             |
| Negative group :                     | PMN cell count >250 = 0 | 111            |
| Disease prevalence (%)               |                         | 14.6           |
| Area under the ROC curve (AUC)       |                         | 0.977          |
| Standard Error <sup>a</sup>          |                         | 0.0125         |
| 95% Confidence interval <sup>b</sup> |                         | 0.933 to 0.995 |
| z statistic                          |                         | 37.995         |
| Significance level P (Area=0.5)      |                         | <0.0001        |

| Criterion | Sens   | 95%CI        | Spec   | 95%CI        | +LR   | 95%CI        | -LR   | 95%CI       | +PV   | 95%CI        | -PV   | 95%CI        |
|-----------|--------|--------------|--------|--------------|-------|--------------|-------|-------------|-------|--------------|-------|--------------|
| >=0.1     | 100.00 | 82.4 - 100.0 | 0.00   | 0.0 - 3.3    | 1.00  |              |       |             | 14.6  | 9.0 - 21.9   |       |              |
| >0.44     | 100.00 | 82.4 - 100.0 | 82.88  | 74.6 - 89.4  | 5.84  | 5.4 - 6.4    | 0.00  |             | 50.0  | 33.4 - 66.6  | 100.0 | 96.0 - 100.0 |
| >0.45     | 94.74  | 74.0 - 99.9  | 82.88  | 74.6 - 89.4  | 5.53  | 4.8 - 6.3    | 0.064 | 0.009 - 0.4 | 48.6  | 31.9 - 65.6  | 98.9  | 94.1 - 100.0 |
| >0.63 *   | 94.74  | 74.0 - 99.9  | 89.19  | 81.9 - 94.3  | 8.76  | 7.7 - 9.9    | 0.059 | 0.008 - 0.4 | 60.0  | 40.6 - 77.3  | 99.0  | 94.6 - 100.0 |
| >0.64     | 89.47  | 66.9 - 98.7  | 89.19  | 81.9 - 94.3  | 8.28  | 7.0 - 9.8    | 0.12  | 0.03 - 0.5  | 58.6  | 38.9 - 76.5  | 98.0  | 93.0 - 99.8  |
| >0.65     | 89.47  | 66.9 - 98.7  | 90.09  | 83.0 - 94.9  | 9.03  | 7.6 - 10.7   | 0.12  | 0.03 - 0.5  | 60.7  | 40.6 - 78.5  | 98.0  | 93.1 - 99.8  |
| >0.71     | 84.21  | 60.4 - 96.6  | 90.09  | 83.0 - 94.9  | 8.50  | 6.9 - 10.4   | 0.18  | 0.05 - 0.6  | 59.3  | 38.8 - 77.6  | 97.1  | 91.7 - 99.4  |
| >1.06     | 84.21  | 60.4 - 96.6  | 96.40  | 91.0 - 99.0  | 23.37 | 19.2 - 28.5  | 0.16  | 0.04 - 0.7  | 80.0  | 55.6 - 94.5  | 97.3  | 92.2 - 99.4  |
| >1.29     | 78.95  | 54.4 - 93.9  | 96.40  | 91.0 - 99.0  | 21.91 | 17.3 - 27.7  | 0.22  | 0.06 - 0.8  | 78.9  | 53.6 - 94.2  | 96.4  | 91.0 - 99.0  |
| >1.52     | 78.95  | 54.4 - 93.9  | 98.20  | 93.6 - 99.8  | 43.82 | 34.7 - 55.3  | 0.21  | 0.04 - 1.1  | 88.2  | 63.6 - 98.5  | 96.5  | 91.2 - 99.0  |
| >1.55     | 73.68  | 48.8 - 90.9  | 98.20  | 93.6 - 99.8  | 40.89 | 31.2 - 53.6  | 0.27  | 0.06 - 1.3  | 87.5  | 61.7 - 98.4  | 95.6  | 90.0 - 98.6  |
| >1.69     | 73.68  | 48.8 - 90.9  | 99.10  | 95.1 - 100.0 | 81.79 | 62.5 - 107.1 | 0.27  | 0.03 - 2.1  | 93.3  | 68.1 - 99.8  | 95.7  | 90.1 - 98.6  |
| >1.8      | 68.42  | 43.4 - 87.4  | 99.10  | 95.1 - 100.0 | 75.95 | 55.9 - 103.1 | 0.32  | 0.04 - 2.5  | 92.9  | 66.1 - 99.8  | 94.8  | 89.1 - 98.1  |
| >1.88     | 63.16  | 38.4 - 83.7  | 100.00 | 96.7 - 100.0 |       |              | 0.37  |             | 100.0 | 73.5 - 100.0 | 94.1  | 88.2 - 97.6  |
| >14.93    | 0.00   | 0.0 - 17.6   | 100.00 | 96.7 - 100.0 |       |              | 1.00  |             |       |              | 85.4  | 78.1 - 91.0  |

Sens: Sensitivity, Spec. Specificity, +LR: positive likelihood ratio, -LR: negative likelihood ratio, +PV: positive predictive value, -PV: negative predictive value

## Receiver Operating Characteristics Analysis (POC)

|                                      |                         |                |
|--------------------------------------|-------------------------|----------------|
| Sample size                          |                         | 130            |
| Positive group :                     | PMN cell count >250 = 1 | 19             |
| Negative group :                     | PMN cell count >250 = 0 | 111            |
| Disease prevalence (%)               |                         | 14.6           |
| Area under the ROC curve (AUC)       |                         | 0.982          |
| Standard Error <sup>a</sup>          |                         | 0.0108         |
| 95% Confidence interval <sup>b</sup> |                         | 0.942 to 0.997 |
| z statistic                          |                         | 44.425         |
| Significance level P (Area=0.5)      |                         | <0.0001        |

| Criterion | Sens   | 95%CI        | Spec   | 95%CI        | +LR   | 95%CI        | -LR   | 95%CI       | +PV   | 95%CI        | -PV   | 95%CI        |
|-----------|--------|--------------|--------|--------------|-------|--------------|-------|-------------|-------|--------------|-------|--------------|
| >=0.1     | 100.00 | 82.4 - 100.0 | 0.00   | 0.0 - 3.3    | 1.00  |              |       |             | 14.6  | 9.0 - 21.9   |       |              |
| >0.5125 * | 100.00 | 82.4 - 100.0 | 84.68  | 76.6 - 90.8  | 6.53  | 6.0 - 7.1    | 0.00  |             | 52.8  | 35.5 - 69.6  | 100.0 | 96.2 - 100.0 |
| >0.525    | 94.74  | 74.0 - 99.9  | 85.59  | 77.6 - 91.5  | 6.57  | 5.8 - 7.5    | 0.061 | 0.009 - 0.4 | 52.9  | 34.9 - 70.5  | 99.0  | 94.3 - 100.0 |
| >0.5625   | 94.74  | 74.0 - 99.9  | 88.29  | 80.8 - 93.6  | 8.09  | 7.1 - 9.2    | 0.060 | 0.008 - 0.4 | 58.1  | 39.1 - 75.5  | 99.0  | 94.5 - 100.0 |
| >0.58     | 89.47  | 66.9 - 98.7  | 88.29  | 80.8 - 93.6  | 7.64  | 6.5 - 9.0    | 0.12  | 0.03 - 0.5  | 56.7  | 37.4 - 74.5  | 98.0  | 93.0 - 99.8  |
| >0.79     | 89.47  | 66.9 - 98.7  | 93.69  | 87.4 - 97.4  | 14.19 | 12.1 - 16.7  | 0.11  | 0.03 - 0.5  | 70.8  | 48.9 - 87.4  | 98.1  | 93.3 - 99.8  |
| >0.8375   | 84.21  | 60.4 - 96.6  | 94.59  | 88.6 - 98.0  | 15.58 | 12.8 - 19.0  | 0.17  | 0.05 - 0.6  | 72.7  | 49.8 - 89.3  | 97.2  | 92.1 - 99.4  |
| >1.4375   | 84.21  | 60.4 - 96.6  | 99.10  | 95.1 - 100.0 | 93.47 | 76.9 - 113.7 | 0.16  | 0.02 - 1.5  | 94.1  | 71.3 - 99.9  | 97.3  | 92.4 - 99.4  |
| >2        | 73.68  | 48.8 - 90.9  | 99.10  | 95.1 - 100.0 | 81.79 | 62.5 - 107.1 | 0.27  | 0.03 - 2.1  | 93.3  | 68.1 - 99.8  | 95.7  | 90.1 - 98.6  |
| >2.175    | 73.68  | 48.8 - 90.9  | 100.00 | 96.7 - 100.0 |       |              | 0.26  |             | 100.0 | 76.8 - 100.0 | 95.7  | 90.2 - 98.6  |
| >13.31    | 0.00   | 0.0 - 17.6   | 100.00 | 96.7 - 100.0 |       |              | 1.00  |             |       |              | 85.4  | 78.1 - 91.0  |

