

## **Tandem Mass Tag (TMT)-based quantitative proteomics reveals potential targets associated with on-set of Sub-Clinical Mastitis in cows**

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**Supplementary Table 1: Sample Collection and Milk Composition Analysis**

| S.No | Animal No | Quarter | SCC                   | pH   | EC    | Fat  | SNF  | Density | Lactose | Solids | Protein | Temp | FP     | CMT Score |
|------|-----------|---------|-----------------------|------|-------|------|------|---------|---------|--------|---------|------|--------|-----------|
| 1    | 7669      | LFQ     | 233x10 <sup>3</sup>   | 6.62 | 4.76  | 3.20 | 9.00 | 28.74   | 5.02    | 0.66   | 2.94    | 28.6 | -0.575 | 1         |
|      |           | RFQ     | 142x10 <sup>3</sup>   | 6.61 | 4.74  | 4.4  | 8.69 | 26.57   | 4.86    | 0.63   | 2.83    | 28.4 | -0.561 | 1         |
|      |           | LHQ     | ≥1500x10 <sup>3</sup> | 6.6  | 4.95  | 3.73 | 8.76 | 27.38   | 4.89    | 0.64   | 2.86    | 29.5 | -0.561 | 3         |
|      |           | RHQ     | 351x10 <sup>3</sup>   | 6.61 | 4.73  | 4.34 | 8.64 | 26.42   | 4.83    | 0.63   | 2.81    | 29.9 | -0.556 | 2         |
| 2    | 7383      | LFQ     | 1287 x10 <sup>3</sup> | 6.57 | 5.32  | 4.20 | 8.14 | 24.60   | 4.55    | 0.59   | 2.63    | 29.1 | -0.521 | 3         |
|      |           | RFQ     | ≥1500x10 <sup>3</sup> | 7.09 | 12.73 | 0.55 | 7.31 | 24.29   | 4.09    | 0.53   | 2.33    | 30.2 | -0.445 | 3         |
|      |           | LHQ     | ≥1500x10 <sup>3</sup> | 6.74 | 6.07  | 4.88 | 7.8  | 22.71   | 4.37    | 0.56   | 2.5     | 29.6 | -0.5   | 3         |
|      |           | RHQ     | ≥1500x10 <sup>3</sup> | 6.89 | 8.54  | 2.29 | 7.87 | 25.06   | 4.40    | 0.57   | 2.53    | 30.7 | -0.491 | 3         |
| 3    | 7696      | LFQ     | 93x10 <sup>3</sup>    | 6.51 | 5.63  | 3.37 | 8.42 | 26.34   | 4.70    | 0.61   | 2.73    | 30   | -0.535 | 0         |
|      |           | RFQ     | 1489x10 <sup>3</sup>  | 7.22 | 10.19 | 2.59 | 8.00 | 25.32   | 4.47    | 0.58   | 2.58    | 32.1 | -0.501 | 3         |
|      |           | LHQ     | 132x10 <sup>3</sup>   | 6.57 | 5.67  | 3.05 | 8.42 | 26.60   | 4.71    | 0.61   | 2.73    | 30.8 | -0.533 | 1         |
|      |           | RHQ     | 1489x10 <sup>3</sup>  | 6.73 | 8.05  | 2.87 | 7.81 | 24.38   | 4.37    | 0.56   | 2.51    | 32.3 | -0.49  | 3         |

|   |      |     |                      |      |      |      |      |       |      |      |      |      |        |   |
|---|------|-----|----------------------|------|------|------|------|-------|------|------|------|------|--------|---|
| 4 | 7697 | LFQ | 1489x10 <sup>3</sup> | 6.67 | 7.04 | 3.19 | 8.44 | 26.56 | 4.72 | 0.61 | 2.74 | 33.5 | -0.535 | 3 |
|   |      | RFQ | 286x10 <sup>3</sup>  | 6.60 | 5.36 | 3.50 | 8.38 | 26.08 | 4.68 | 0.61 | 2.72 | 33.5 | -0.533 | 1 |
|   |      | LHQ | 322x10 <sup>3</sup>  | 6.67 | 5.43 | 4.95 | 8.09 | 23.78 | 4.53 | 0.58 | 2.60 | 33.4 | -0.521 | 2 |
|   |      | RHQ | 93x10 <sup>3</sup>   | 6.67 | 5.28 | 3.76 | 8.32 | 25.64 | 4.65 | 0.60 | 2.69 | 33.2 | -0.53  | 0 |
| 5 | 7488 | LFQ | 405x10 <sup>3</sup>  | 6.73 | 6.66 | 2.97 | 8.69 | 27.71 | 4.85 | 0.64 | 2.83 | 29.8 | -0.551 | 2 |
|   |      | RFQ | 1489x10 <sup>3</sup> | 6.96 | 8.27 | 2.64 | 8.74 | 28.16 | 4.88 | 0.64 | 2.85 | 30.5 | -0.553 | 3 |
|   |      | LHQ | 111x10 <sup>3</sup>  | 6.76 | 6.12 | 2.81 | 8.66 | 27.72 | 4.84 | 0.63 | 2.82 | 29.6 | -0.548 | 1 |
|   |      | RHQ | 1489x10 <sup>3</sup> | 6.90 | 8.82 | 3.17 | 8.60 | 27.21 | 4.81 | 0.63 | 2.80 | 30.5 | -0.546 | 3 |
| 6 | 7525 | LFQ | ≤70x10 <sup>3</sup>  | 6.60 | 5.13 | 5.85 | 7.34 | 20.16 | 4.12 | 0.51 | 2.33 | 31.5 | -0.474 | 0 |
|   |      | RFQ | ≤70x10 <sup>3</sup>  | 6.59 | 5.00 | 6.60 | 7.08 | 18.55 | 3.98 | 0.49 | 2.33 | 31.4 | -0.459 | 0 |
|   |      | LHQ | 279x10 <sup>3</sup>  | 6.59 | 5.19 | 3.79 | 7.87 | 23.89 | 4.41 | 0.57 | 2.53 | 31.3 | -0.50  | 2 |
|   |      | RHQ | ≤70x10 <sup>3</sup>  | 6.59 | 5.51 | 3.80 | 7.89 | 23.92 | 4.41 | 0.57 | 2.53 | 31.0 | -0.50  | 0 |
| 7 | 7685 | LFQ | ≤70x10 <sup>3</sup>  | 6.7  | 6.0  | 4.19 | 7.86 | 23.52 | 4.40 | 0.56 | 2.52 | 31.3 | -0.501 | 0 |
|   |      | RFQ | ≤70x10 <sup>3</sup>  | 6.73 | 6.01 | 3.50 | 8.03 | 24.70 | 4.45 | 0.57 | 2.58 | 31.9 | -.503  | 0 |

|    |      |     |                       |      |       |      |      |       |      |      |      |      |        |   |
|----|------|-----|-----------------------|------|-------|------|------|-------|------|------|------|------|--------|---|
|    |      | LHQ | 82x10 <sup>3</sup>    | 6.7  | 5.68  | 2.16 | 8.62 | 28.10 | 4.82 | 0.63 | 2.81 | 31.1 | -0.542 | 0 |
|    |      | RHQ | ≤70x10 <sup>3</sup>   | 6.74 | 5.64  | 4.02 | 7.96 | 24.03 | 4.45 | 0.57 | 2.56 | 31.8 | -0.507 | 0 |
| 8  | 7728 | LFQ | 1489x10 <sup>3</sup>  | 7.00 | 10.45 | 5.16 | 7.61 | 21.74 | 4.26 | 0.54 | 2.43 | 31.5 | -0.489 | 3 |
|    |      | RFQ | 139x10 <sup>3</sup>   | 6.71 | 6.21  | 1.61 | 8.69 | 28.82 | 4.85 | 0.64 | 2.84 | 31.7 | -0.543 | 1 |
|    |      | LHQ | 261x10 <sup>3</sup>   | 6.77 | 5.93  | 5.66 | 7.39 | 20.15 | 4.15 | 0.52 | 2.35 | 31.4 | -0.476 | 1 |
|    |      | RHQ | 1489x10 <sup>3</sup>  | 7.22 | 10.58 | 4.53 | 7.36 | 21.29 | 4.15 | 0.52 | 2.34 | 31.7 | -0.468 | 3 |
| 9  | 7686 | LFQ | 1489x10 <sup>3</sup>  | 6.86 | 5.60  | 2.34 | 8.54 | 27.63 | 4.77 | 0.62 | 2.78 | 31.7 | -0.537 | 3 |
|    |      | RFQ | ≤70x10 <sup>3</sup>   | 6.77 | 5.34  | 2.89 | 8.47 | 26.92 | 4.73 | 0.62 | 2.75 | 31.7 | -0.536 | 0 |
|    |      | LHQ | 163x10 <sup>3</sup>   | 6.74 | 5.45  | 2.19 | 8.77 | 28.65 | 4.90 | 0.64 | 2.86 | 31.8 | -0.552 | 1 |
|    |      | RHQ | ≤70x10 <sup>3</sup>   | 6.73 | 5.11  | 3.82 | 8.33 | 25.63 | 4.66 | 0.60 | 2.70 | 31.9 | -0.531 | 0 |
| 10 | 7234 | LFQ | 1489x10 <sup>3</sup>  | 6.91 | 8.12  | 8.01 | 6.04 | 13.37 | 3.40 | 0.40 | 1.84 | 26.2 | -0.393 | 3 |
|    |      | RFQ | 1141 x10 <sup>3</sup> | 7.14 | 8.88  | 6.99 | 6.63 | 16.47 | 3.73 | 0.45 | 2.06 | 29.7 | -0.429 | 3 |
|    |      | LHQ | 1489x10 <sup>3</sup>  | 7.12 | 8.57  | 6.60 | 6.35 | 15.70 | 3.57 | 0.43 | 1.96 | 28.9 | -0.408 | 3 |
|    |      | RHQ | 1489x10 <sup>3</sup>  | 7.28 | 10.19 | 8.54 | 5.33 | 10.18 | 3.01 | 0.34 | 1.58 | 29.2 | -0.346 | 3 |

|    |      |     |                       |      |       |           |      |       |      |      |      |      |        |   |
|----|------|-----|-----------------------|------|-------|-----------|------|-------|------|------|------|------|--------|---|
| 11 | 7453 | LFQ | $\leq 70 \times 10^3$ | 6.81 | 5.65  | 1.35      | 9.10 | 30.16 | 5.08 | 0.67 | 2.99 | 28.9 | -0.570 | 0 |
|    |      | RFQ | $\leq 70 \times 10^3$ | 6.64 | 5.32  | 2.14      | 8.87 | 29.09 | 4.95 | 0.65 | 2.90 | 29.4 | -0.559 | 0 |
|    |      | LHQ | $1489 \times 10^3$    | 6.81 | 6.27  | 1.83      | 8.88 | 29.35 | 4.94 | 0.65 | 2.90 | 28.9 | -0.557 | 3 |
|    |      | RHQ | $1489 \times 10^3$    | 6.60 | 6.15  | 2.68      | 8.68 | 27.92 | 4.85 | 0.64 | 2.83 | 28.4 | -0.549 | 3 |
| 12 | 7436 | LFQ | $1489 \times 10^3$    | 6.56 | 5.37  | 3.13      | 8.48 | 26.75 | 4.74 | 0.62 | 2.75 | 28.0 | -0.538 | 3 |
|    |      | RFQ | $1489 \times 10^3$    | 6.56 | 7.43  | 3.99      | 7.74 | 23.20 | 4.33 | 0.55 | 2.48 | 27.1 | -0.491 | 3 |
|    |      | LHQ | $1489 \times 10^3$    | 4.95 | 6.57  | 3.34      | 8.55 | 26.86 | 4.78 | 0.62 | 2.78 | 27.3 | -0.544 | 3 |
|    |      | RHQ | $1489 \times 10^3$    | 7.23 | 10.86 | 2.98      | 8.29 | 26.15 | 4.63 | 0.60 | 2.68 | 24.3 | -0.52  | 3 |
| 13 | 7305 | LFQ | $1475 \times 10^3$    | 6.93 | 8.64  | 10.2<br>7 | 4.84 | 6.90  | 2.75 | 0.29 | 1.39 | 27.3 | -0.314 | 3 |
|    |      | RFQ | $305 \times 10^3$     | 6.95 | 9.11  | 7.08      | 6.11 | 14.38 | 3.44 | 0.41 | 1.87 | 29.8 | -0.394 | 2 |
|    |      | LHQ | $431 \times 10^3$     | 6.94 | 8.55  | 9.34      | 5.35 | 9.63  | 3.03 | 0.34 | 1.58 | 28.4 | -0.351 | 2 |
|    |      | RHQ | $1489 \times 10^3$    | 7.08 | 10.94 | 4.44      | 7.12 | 20.44 | 4.03 | 0.50 | 2.25 | 28.1 | -0.451 | 3 |
| 14 | 7624 | LFQ | $1489 \times 10^3$    | 6.95 | 7.75  | 5.34      | 7.54 | 21.33 | 4.22 | 0.53 | 2.40 | 30.9 | -0.485 | 3 |
|    |      | RFQ | $314 \times 10^3$     | 6.68 | 6.64  | 3.33      | 7.87 | 24.23 | 4.40 | 0.57 | 2.53 | 31.1 | -0.497 | 2 |

|    |      |     |                      |      |       |      |      |       |      |      |      |      |        |   |
|----|------|-----|----------------------|------|-------|------|------|-------|------|------|------|------|--------|---|
|    |      | LHQ | 1489x10 <sup>3</sup> | 6.96 | 10.50 | 5.42 | 7.85 | 22.49 | 4.40 | 0.56 | 2.51 | 31.1 | -0.507 | 3 |
|    |      | RHQ | 258x10 <sup>3</sup>  | 6.72 | 6.18  | 3.60 | 8.03 | 24.64 | 4.49 | 0.58 | 2.59 | 31.1 | -0.509 | 1 |
| 15 | 7226 | LFQ | 485x10 <sup>3</sup>  | 6.59 | 5.31  | 7.05 | 7.41 | 19.47 | 4.16 | 0.52 | 2.35 | 31.9 | -0.485 | 2 |
|    |      | RFQ | 100x10 <sup>3</sup>  | 6.66 | 4.81  | 3.68 | 8.98 | 28.28 | 5.02 | 0.66 | 2.94 | 32.5 | -0.576 | 1 |
|    |      | LHQ | 311x10 <sup>3</sup>  | 6.71 | 4.85  | 4.41 | 8.72 | 26.66 | 4.87 | 0.63 | 2.84 | 32.4 | -0.562 | 2 |
|    |      | RHQ | 293x10 <sup>3</sup>  | 6.72 | 5.13  | 3.68 | 9.05 | 28.55 | 5.05 | 0.66 | 2.96 | 31.9 | -0.581 | 1 |
| 16 | 7261 | LFQ | 97x10 <sup>3</sup>   | 6.60 | 4.33  | 4.84 | 8.74 | 26.42 | 4.89 | 0.64 | 2.84 | 32.6 | -0.567 | 0 |
|    |      | RFQ | 167x10 <sup>3</sup>  | 6.59 | 4.64  | 4.30 | 8.80 | 27.07 | 4.92 | 0.64 | 2.87 | 32.5 | -0.567 | 1 |
|    |      | LHQ | 750x10 <sup>3</sup>  | 6.57 | 4.37  | 7.23 | 7.85 | 21.05 | 4.40 | 0.55 | 2.51 | 32.6 | -0.518 | 2 |
|    |      | RHQ | 1489x10 <sup>3</sup> | 6.58 | 4.57  | 5.75 | 8.49 | 24.70 | 4.75 | 0.61 | 2.75 | 32.7 | -0.555 | 3 |
| 17 | 7664 | LFQ | 342x10 <sup>3</sup>  | 6.58 | 4.97  | 3.82 | 8.43 | 26.06 | 4.71 | 0.61 | 2.73 | 32.3 | -0.539 | 2 |
|    |      | RFQ | 293x10 <sup>3</sup>  | 6.60 | 5.12  | 2.84 | 8.74 | 28    | 4.88 | 0.64 | 2.85 | 31.2 | -0.554 | 1 |
|    |      | LHQ | 754x10 <sup>3</sup>  | 6.62 | 5.52  | 2.68 | 8.79 | 28.31 | 4.91 | 0.64 | 2.87 | 32.6 | -0.556 | 3 |
|    |      | RHQ | 1489x10 <sup>3</sup> | 6.64 | 5.79  | 2.34 | 8.92 | 29.10 | 4.98 | 0.66 | 2.92 | 32.8 | -0.563 | 3 |

|    |      |     |                      |      |      |      |      |       |      |      |      |      |        |   |
|----|------|-----|----------------------|------|------|------|------|-------|------|------|------|------|--------|---|
| 18 | 7377 | LFQ | 1489x10 <sup>3</sup> | 6.46 | 6.65 | 3.31 | 8.56 | 29.62 | 4.72 | 0.62 | 2.78 | 32.5 | -0.544 | 3 |
|    |      | RFQ | 883x10 <sup>3</sup>  | 6.51 | 5.58 | 4.11 | 8.56 | 29.78 | 4.85 | 0.63 | 2.83 | 33.1 | -0.558 | 3 |
|    |      | LHQ | 1153x10 <sup>3</sup> | 6.55 | 6.35 | 4.17 | 8.40 | 25.61 | 4.69 | 0.61 | 2.72 | 33   | -0.538 | 3 |
|    |      | RHQ | 1489x10 <sup>3</sup> | 6.57 | 6.45 | 3.96 | 8.38 | 25.71 | 4.69 | 0.61 | 2.71 | 32.9 | -0.536 | 3 |
| 19 | 7343 | LFQ | 160x10 <sup>3</sup>  | 6.54 | 5.25 | 4.92 | 8.18 | 24.15 | 4.57 | 0.59 | 2.63 | 33.1 | -0.527 | 1 |
|    |      | RFQ | 191x10 <sup>3</sup>  | 6.55 | 5.23 | 5.43 | 7.99 | 23.01 | 4.47 | 0.57 | 2.56 | 33.2 | -0.517 | 1 |
|    |      | LHQ | 520x10 <sup>3</sup>  | 6.55 | 5.16 | 5.30 | 8.22 | 24    | 4.60 | 0.59 | 2.65 | 33.4 | -0.532 | 2 |
|    |      | RHQ | 1489x10 <sup>3</sup> | 6.55 | 5.49 | 5.22 | 8.30 | 24.40 | 4.64 | 0.60 | 2.68 | 33.5 | -0.538 | 3 |
| 20 | 7338 | LFQ | 142x10 <sup>3</sup>  | 6.50 | 5.39 | 2.40 | 8.60 | 27.81 | 4.80 | 0.63 | 2.80 | 33.5 | -0.542 | 1 |
|    |      | RFQ | 82x10 <sup>3</sup>   | 6.52 | 6.18 | 1.72 | 8.46 | 27.83 | 4.73 | 0.62 | 2.75 | 33.3 | -0.528 | 0 |
|    |      | LHQ | 683x10 <sup>3</sup>  | 6.49 | 5.73 | 2.70 | 8.40 | 26.81 | 4.70 | 0.61 | 2.73 | 33.5 | -0.530 | 2 |
|    |      | RHQ | 1489x10 <sup>3</sup> | 6.59 | 5.49 | 3.14 | 8.74 | 27.76 | 4.88 | 0.64 | 2.85 | 30.2 | -0.556 | 3 |

|    |      |           |                      |                |      |      |      |       |      |      |      |      |        |   |
|----|------|-----------|----------------------|----------------|------|------|------|-------|------|------|------|------|--------|---|
| 21 | 7303 | LFQ<br>n6 | 86x10 <sup>3</sup>   | 6.47           | 4.97 | 3.06 | 9.09 | 29.21 | 5.08 | 0.67 | 2.98 | 30.3 | -0.580 | 0 |
|    |      | RFQ       | 1227x10 <sup>3</sup> | 6.57           | 5.61 | 3.14 | 8.74 | 27.76 | 4.88 | 0.64 | 2.85 | 30.2 | -0.556 | 3 |
|    |      | LHQ       | 516x10 <sup>3</sup>  | 6.54           | 5.06 | 3.26 | 8.90 | 28.31 | 4.97 | 0.65 | 2.91 | 31.0 | -0.568 | 2 |
|    |      | RHQ       | 289x10 <sup>3</sup>  | 6.52           | 4.75 | 3.29 | 9.14 | 29.19 | 5.10 | 0.67 | 2.99 | 30.4 | -0.585 | 1 |
| 22 | 7543 | LFQ       | 132x10 <sup>3</sup>  | 6.57           | 5.89 | 1.30 | 8.86 | 29.73 | 4.95 | 0.65 | 2.90 | 31.2 | -0.553 | 1 |
|    |      | RFQ       | <70x10 <sup>3</sup>  | 6.6            | 5.95 | 0.73 | 9.04 | 30.87 | 5.04 | 0.67 | 2.97 | 31.1 | -0.562 | 0 |
|    |      | LHQ       | 265x10 <sup>3</sup>  | 6.58           | 5.61 | 1.43 | 8.98 | 30.08 | 5.01 | 0.66 | 2.94 | 31.6 | -0.562 | 1 |
|    |      | RHQ       | <70x10 <sup>3</sup>  | 6.60           | 5.60 | 1.59 | 8.91 | 29.68 | 4.97 | 0.66 | 2.92 | 31.6 | -0.558 | 0 |
| 23 | 7640 | LFQ       | x10 <sup>3</sup>     | Not<br>working |      |      |      |       |      |      |      |      |        |   |
|    |      | RFQ       | <70x10 <sup>3</sup>  | 6.56           | 5.01 | 2.53 | 8.86 | 28.72 | 4.95 | 0.65 | 2.89 | 30.7 | -0.560 | 0 |
|    |      | LHQ       | <70x10 <sup>3</sup>  | 6.54           | 5.01 | 3.31 | 8.52 | 26.77 | 4.76 | 0.62 | 2.77 | 31.3 | -0.54  | 0 |
|    |      | RHQ       | <70x10 <sup>3</sup>  | 6.52           | 5.04 | 2.90 | 8.65 | 27.59 | 4.83 | 0.63 | 2.82 | 31.1 | -0.548 | 0 |
| 24 | 7634 | LFQ       | 1489x10 <sup>3</sup> | 6.70           | 9.11 | 2.60 | 7.71 | 24.18 | 4.31 | 0.55 | 2.47 | 29.6 | -0.482 | 3 |
|    |      | RFQ       | 1489x10 <sup>3</sup> | 6.91           | 8.94 | 4.70 | 6.87 | 19.26 | 3.86 | 0.48 | 2.16 | 29.9 | -0.435 | 3 |

|    |      |     |                      |                |      |      |       |       |      |      |      |        |        |   |
|----|------|-----|----------------------|----------------|------|------|-------|-------|------|------|------|--------|--------|---|
|    |      | LHQ | 1489x10 <sup>3</sup> | 7.01           | 9.02 | 3.71 | 7.17  | 21.20 | 4.02 | 0.51 | 2.27 | 30.3   | -0.451 | 3 |
|    |      | RHQ | 633x10 <sup>3</sup>  | 6.87           | 6.26 | 4.26 | 7.74  | 23    | 4.34 | 0.55 | 2.48 | 30.5   | -0.493 | 2 |
| 25 | 7100 | LFQ | <70x10 <sup>3</sup>  | 6.67           | 5.61 | 0.87 | 8.57  | 28.93 | 4.78 | 0.63 | 2.79 | 30.2   | -0.531 | 0 |
|    |      | RFQ | 1287x10 <sup>3</sup> | 6.63           | 5.84 | 2.08 | 8.20  | 26.52 | 4.58 | 0.60 | 2.65 | 30.2   | -0.512 | 3 |
|    |      | LHQ | <70x10 <sup>3</sup>  | 6.60           | 5.60 | 0.91 | 8.56  | 28.86 | 4.78 | 0.63 | 2.79 | 30     | 0.530  | 0 |
|    |      | RHQ | x10 <sup>3</sup>     | Not<br>working |      |      |       |       |      |      |      |        |        |   |
| 26 | 7121 | LFQ | 114x10 <sup>3</sup>  | 6.49           | 4.09 | 1.6  | 10.19 | 31.86 | 5.26 | 0.7  | 3.61 | -0.6   | 30.4   | 1 |
|    |      | RFQ | 118x10 <sup>3</sup>  | 6.44           | 3.98 | 1.78 | 10.15 | 31.58 | 5.24 | 0.7  | 3.6  | -0.598 | 30.5   | 1 |
|    |      | LHQ | 1325x10 <sup>3</sup> | 6.43           | 4.52 | 1.83 | 10.09 | 31.33 | 5.21 | 0.69 | 3.58 | -0.595 | 30.4   | 3 |
|    |      | RHQ | 1216x10 <sup>3</sup> | 6.45           | 4.49 | 1.8  | 10.1  | 31.36 | 5.21 | 0.69 | 3.58 | -0.595 | 30.6   | 3 |
| 27 | 7144 | LFQ | 591x10 <sup>3</sup>  | 6.45           | 5.34 | 3.72 | 9.2   | 26.36 | 4.73 | 0.61 | 3.24 | -0.544 | 29.4   | 2 |
|    |      | RFQ | 174x10 <sup>3</sup>  | 6.45           | 4.47 | 4.72 | 9.24  | 25.68 | 4.74 | 0.61 | 3.25 | -0.553 | 28.7   | 1 |

|    |      |     |                      |      |      |      |      |       |      |      |      |        |      |   |
|----|------|-----|----------------------|------|------|------|------|-------|------|------|------|--------|------|---|
|    |      | LHQ | 908x10 <sup>3</sup>  | 6.46 | 7.48 | 3.46 | 8.85 | 25.18 | 4.53 | 0.59 | 3.11 | -0.518 | 29   | 2 |
|    |      | RHQ | 408x10 <sup>3</sup>  | 6.49 | 7.18 | 3.97 | 8.72 | 24.26 | 4.46 | 0.57 | 3.06 | -0.511 | 29.6 | 2 |
| 28 | 7184 | LFQ | 362x10 <sup>3</sup>  | 6.43 | 5    | 4.72 | 8.45 | 22.61 | 4.31 | 0.55 | 2.96 | -0.497 | 30.8 | 2 |
|    |      | RFQ | 1500x10 <sup>3</sup> | 6.45 | 7.18 | 3.85 | 8.44 | 23.28 | 4.31 | 0.55 | 2.96 | -0.491 | 30.7 | 3 |
|    |      | LHQ | 139x10 <sup>3</sup>  | 6.51 | 4.33 | 4.4  | 8.75 | 24.04 | 4.48 | 0.57 | 3.07 | -0.516 | 30.8 | 1 |
|    |      | RHQ | 357x10 <sup>3</sup>  | 6.46 | 4.84 | 5.02 | 8.37 | 22.07 | 4.27 | 0.54 | 2.93 | -0.493 | 31   | 2 |
| 29 | 7236 | LFQ | 100x10 <sup>3</sup>  | 6.41 | 5.59 | 2.35 | 9.33 | 27.95 | 4.79 | 0.63 | 3.29 | -0.545 | 30.7 | 1 |
|    |      | RFQ | 675x10 <sup>3</sup>  | 6.4  | 5.31 | 2.2  | 9.31 | 27.99 | 4.78 | 0.63 | 3.29 | -0.542 | 30.5 | 2 |
|    |      | LHQ | 377x10 <sup>3</sup>  | 6.38 | 5.28 | 2.24 | 9.46 | 28.54 | 4.86 | 0.64 | 3.34 | -0.553 | 30.6 | 2 |
|    |      | RHQ | 114x10 <sup>3</sup>  | 6.34 | 5.27 | 2.19 | 9.44 | 28.51 | 4.85 | 0.64 | 3.34 | -0.552 | 30.7 | 1 |
| 30 | 7069 | LFQ | 1247x10 <sup>3</sup> | 6.38 | 7.08 | 2.77 | 8.81 | 25.6  | 4.51 | 0.58 | 3.1  | -0.511 | 28.3 | 3 |
|    |      | RFQ | 1489x10 <sup>3</sup> | 6.34 | 4.77 | 3.96 | 9.01 | 25.39 | 4.62 | 0.6  | 3.17 | -0.532 | 27.3 | 3 |

|    |      |     |                      |      |      |       |      |       |      |      |      |        |      |   |
|----|------|-----|----------------------|------|------|-------|------|-------|------|------|------|--------|------|---|
|    |      | LHQ | 1489x10 <sup>3</sup> | 6.4  | 6.11 | 3.75  | 8.6  | 23.97 | 4.39 | 0.56 | 3.02 | -0.502 | 26.8 | 3 |
|    |      | RHQ | 1468x10 <sup>3</sup> | 6.44 | 5.28 | 3.03  | 9    | 26.13 | 4.61 | 0.6  | 3.17 | -0.526 | 26.5 | 3 |
| 31 | 7771 | LFQ | 286x10 <sup>3</sup>  | 6.4  | 4.87 | 5.76  | 8.62 | 22.45 | 4.41 | 0.56 | 3.02 | -0.515 | 30.8 | 2 |
|    |      | RFQ | 368x10 <sup>3</sup>  | 6.38 | 4.35 | 10.86 | 6.67 | 10.8  | 3.35 | 0.38 | 2.29 | -0.402 | 30.9 | 2 |
|    |      | LHQ | 325x10 <sup>3</sup>  | 6.38 | 4.87 | 4.73  | 9.02 | 24.85 | 4.63 | 0.6  | 3.17 | -0.538 | 30.9 | 2 |
|    |      | RHQ | 334x10 <sup>3</sup>  | 6.41 | 4.81 | 5.47  | 8.73 | 23.11 | 4.47 | 0.57 | 3.06 | -0.521 | 31   | 2 |
| 32 | 7258 | LFQ | 1091x10 <sup>3</sup> | 6.10 | 6.52 | 3.43  | 8.57 | 24.11 | 4.37 | 0.56 | 3.01 | -0.498 | 27.3 | 1 |
|    |      | RFQ | 305x10 <sup>3</sup>  | 6.20 | 5.27 | 2.37  | 9.28 | 27.74 | 4.77 | 0.62 | 3.28 | -0.541 | 26.8 | 2 |
|    |      | LHQ | 1489x10 <sup>3</sup> | 6.19 | 6.77 | 2.41  | 9.26 | 27.61 | 4.75 | 0.62 | 3.27 | -0.540 | 26.8 | 3 |
|    |      | RHQ | 1489x10 <sup>3</sup> | 6.26 | 5.91 | 2.68  | 9.36 | 27.81 | 4.81 | 0.63 | 3.30 | -0.549 | 27.2 | 3 |
| 33 | 7233 | LFQ | 1489x10 <sup>3</sup> | 8.66 | 7.55 | 2.83  | 8.23 | 23.29 | 4.19 | 0.54 | 2.89 | -0.472 | 25.8 | 3 |
|    |      | RFQ | 362x10 <sup>3</sup>  | 8.39 | 4.24 | 3.46  | 9.07 | 26.04 | 4.65 | 0.6  | 3.19 | -0.533 | 24.9 | 2 |

|    |      |     |                      |      |      |      |      |       |      |      |      |        |      |   |
|----|------|-----|----------------------|------|------|------|------|-------|------|------|------|--------|------|---|
|    |      | LHQ | 422x10 <sup>3</sup>  | 8.12 | 4.13 | 3.63 | 9.01 | 25.69 | 4.62 | 0.6  | 3.17 | -0.53  | 24.7 | 2 |
|    |      | RHQ | 311x10 <sup>3</sup>  | 9.31 | 4.27 | 3.97 | 8.94 | 25.11 | 4.58 | 0.59 | 3.14 | -0.527 | 24.9 | 2 |
| 34 | 7075 | LFQ | 485x10 <sup>3</sup>  | 7.91 | 7.97 | 4.73 | 7.64 | 19.46 | 3.87 | 0.48 | 2.66 | -0.44  | 25.2 | 2 |
|    |      | RFQ | 74x10 <sup>3</sup>   | 7.8  | 5.01 | 1.43 | 9.95 | 31.08 | 5.13 | 0.68 | 3.52 | -0.582 | 26.8 | 0 |
|    |      | LHQ | 47x10 <sup>3</sup>   | 7.57 | 5.82 | 2.11 | 9.58 | 29.1  | 4.93 | 0.65 | 3.39 | -0.561 | 26.1 | 0 |
|    |      | RHQ | <70x10 <sup>3</sup>  | 7.43 | 4.77 | 2.17 | 9.91 | 30.35 | 5.11 | 0.68 | 3.51 | -0.584 | 28.5 | 0 |
| 35 | 7266 | LFQ | 1489x10 <sup>3</sup> | 7.35 | 6.88 | 3.04 | 9.7  | 28.82 | 5    | 0.66 | 3.43 | -0.575 | 26.8 | 3 |
|    |      | RFQ | 322x10 <sup>3</sup>  | 7.29 | 4.76 | 5.49 | 9.26 | 25.16 | 4.76 | 0.61 | 3.26 | -0.559 | 27.7 | 2 |
|    |      | LHQ | 1489x10 <sup>3</sup> | 7.22 | 6.78 | 4.49 | 9.3  | 26.09 | 4.78 | 0.62 | 3.27 | -0.556 | 28.2 | 3 |
|    |      | RHQ | 240x10 <sup>3</sup>  | 7.18 | 4.88 | 4.47 | 9.66 | 27.53 | 4.98 | 0.65 | 3.41 | -0.582 | 28.8 | 2 |
| 36 | 7069 | LFQ | 1489x10 <sup>3</sup> | 7.15 | 6.11 | 3.84 | 9.42 | 27.08 | 4.84 | 0.63 | 3.32 | -0.56  | 28.1 | 3 |
|    |      | RFQ | 325x10 <sup>3</sup>  | 7.09 | 4.28 | 4.58 | 9.7  | 27.58 | 5    | 0.65 | 3.42 | -0.585 | 28   | 2 |

|    |      |     |                     |      |      |      |       |       |      |      |      |        |      |   |
|----|------|-----|---------------------|------|------|------|-------|-------|------|------|------|--------|------|---|
|    |      | LHQ | 293x10 <sup>3</sup> | 6.99 | 4.38 | 4.17 | 9.86  | 28.56 | 5.09 | 0.67 | 3.48 | -0.594 | 28.5 | 2 |
|    |      | RHQ | 195x10 <sup>3</sup> | 6.95 | 4.21 | 5.03 | 9.58  | 26.76 | 4.93 | 0.64 | 3.38 | -0.579 | 29   | 2 |
| 37 | 7068 | LFQ | 244x10 <sup>3</sup> | 6.09 | 5.01 | 3.24 | 10.1  | 30.22 | 4.83 | 0.69 | 3.57 | 0.605  | 31   | 2 |
|    |      | RFQ | 240x10 <sup>3</sup> | 6.47 | 5    | 3.14 | 10.03 | 30.04 | 4.72 | 0.69 | 3.58 | 0.599  | 31.3 | 2 |
|    |      | LHQ | 174x10 <sup>3</sup> | 6.48 | 4.75 | 3.24 | 10.11 | 30.25 | 5.19 | 0.69 | 3.55 | -0.605 | 31.2 | 1 |
|    |      | RHQ | 188x10 <sup>3</sup> | 6.49 | 4.73 | 3.16 | 10.14 | 30.44 | 5.06 | 0.69 | 3.59 | -0.607 | 31.2 | 1 |
| 38 | 7180 | LFQ | 342x10 <sup>3</sup> | 6.55 | 5.33 | 5.22 | 8.82  | 23.65 | 4.93 | 0.58 | 3.1  | -0.526 | 31.6 | 3 |
|    |      | RFQ | 558x10 <sup>3</sup> | 6.62 | 4.83 | 3.9  | 9.52  | 27.45 | 4.28 | 0.64 | 3.36 | -0.568 | 31.4 | 3 |
|    |      | LHQ | 118x10 <sup>3</sup> | 6.65 | 4.1  | 4.95 | 9.45  | 26.33 | 4.87 | 0.63 | 3.33 | -0.571 | 31.3 | 1 |
|    |      | RHQ | 160x10 <sup>3</sup> | 6.63 | 4.29 | 5    | 9.27  | 25.63 | 4.77 | 0.62 | 3.26 | -0.557 | 31.3 | 1 |
| 39 | 7403 | LFQ | 254x10 <sup>3</sup> | 6.59 | 5.35 | 3.82 | 9.32  | 26.72 | 4.79 | 0.62 | 3.28 | -0.553 | 31.5 | 2 |
|    |      | RFQ | 181x10 <sup>3</sup> | 6.6  | 4.94 | 4.38 | 9.27  | 26.07 | 4.76 | 0.62 | 3.26 | -0.553 | 31.4 | 1 |

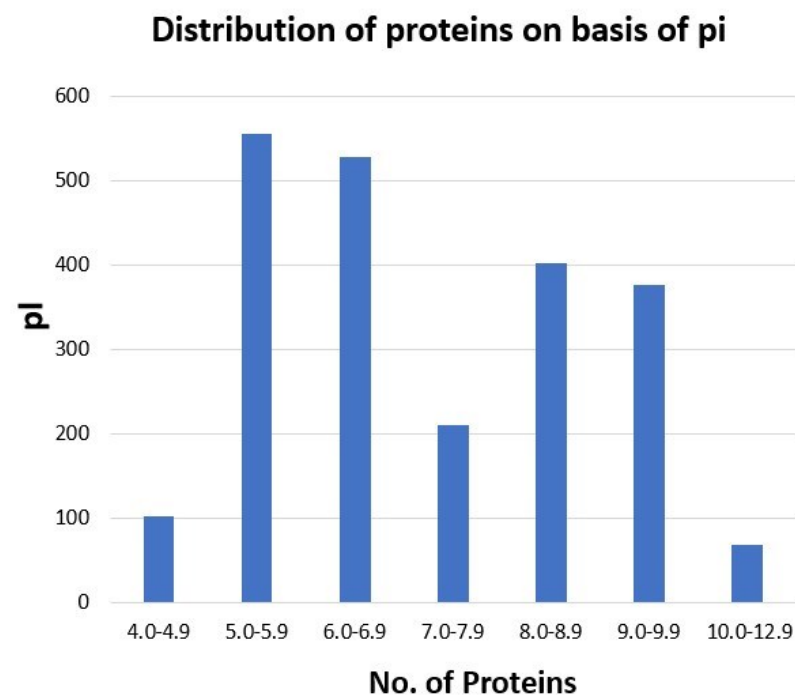
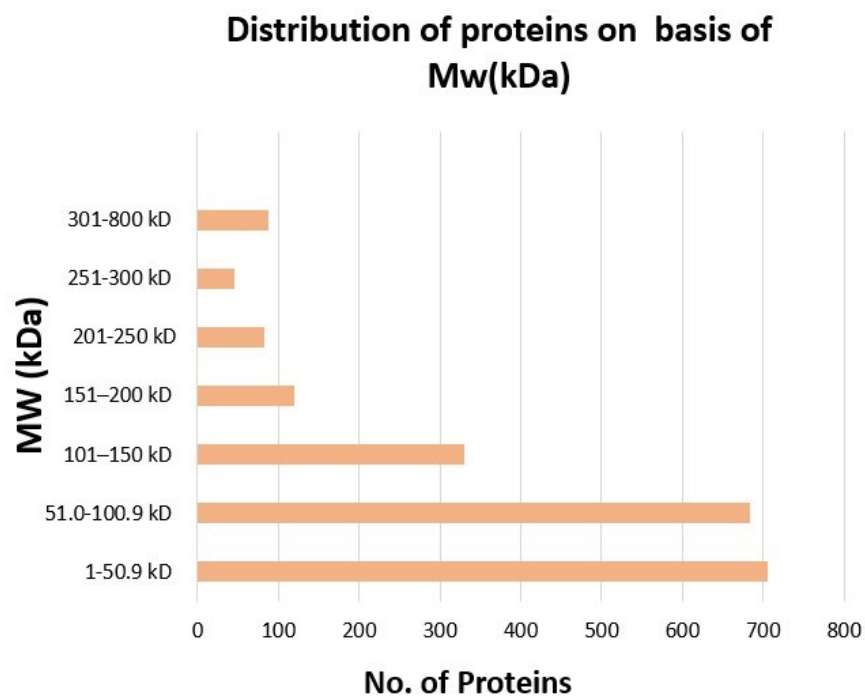
|    |                             |     |                      |      |       |      |      |       |      |      |      |        |      |   |
|----|-----------------------------|-----|----------------------|------|-------|------|------|-------|------|------|------|--------|------|---|
|    |                             | LHQ | 177x10 <sup>3</sup>  | 6.58 | 4.62  | 4.67 | 9.27 | 25.83 | 4.76 | 0.62 | 3.26 | -0.555 | 31.5 | 1 |
|    |                             | RHQ | 132x10 <sup>3</sup>  | 6.58 | 4.46  | 4.3  | 9.48 | 26.96 | 4.88 | 0.62 | 3.34 | -0.567 | 31.7 | 1 |
| 40 | 7346                        | LFQ | 320x10 <sup>3</sup>  | 6.07 | 5.5   | 5.16 | 8.65 | 23.04 | 4.42 | 0.56 | 3.03 | -0.514 | 28.8 | 2 |
|    |                             | RFQ | 216x10 <sup>3</sup>  | 6.08 | 4.77  | 4.77 | 8.73 | 22.71 | 4.47 | 0.57 | 3.06 | -0.524 | 29   | 2 |
|    |                             | LHQ | 216x10 <sup>3</sup>  | 6.11 | 5.13  | 5.48 | 8.75 | 23.17 | 4.48 | 0.57 | 3.07 | -0.522 | 27.6 | 2 |
|    |                             | RHQ | 153x10 <sup>3</sup>  | 6.12 | 5.22  | 5.03 | 8.84 | 23.88 | 4.53 | 0.58 | 3.1  | -0.526 | 29   | 1 |
| 41 | 7023 (3<br>teat<br>present) | LFQ | 1489x10 <sup>3</sup> | 5.7  | 10.89 | 4.51 | 7.46 | 18.95 | 3.77 | 0.47 | 2.6  | -0.427 | 28.3 | 3 |
|    |                             | RFQ | -                    | -    | -     | -    | -    | -     | -    | -    | -    | -      | -    |   |
|    |                             | LHQ | 1489x10 <sup>3</sup> | 5.72 | 9.23  | 6.75 | 7.28 | 16.44 | 3.67 | 0.44 | 2.52 | -0.425 | 28.1 | 3 |
|    |                             | RHQ | 1489x10 <sup>3</sup> | 5.78 | 12.02 | 2.18 | 7.77 | 22.02 | 3.94 | 0.5  | 2.72 | -0.437 | 26.7 | 3 |
| 42 | 7032                        | LFQ | 600x10 <sup>3</sup>  | 6    | 6.18  | 2.43 | 9.4  | 28.16 | 4.83 | 0.63 | 3.32 | -0.55  | 27.5 | 2 |
|    |                             | RFQ | <70x10 <sup>3</sup>  | 6.01 | 4.18  | 3.1  | 9.99 | 29.89 | 5.15 | 0.68 | 3.53 | -0.596 | 28   | 0 |

|    |                             |     |                      |      |       |      |      |       |      |      |      |        |      |   |
|----|-----------------------------|-----|----------------------|------|-------|------|------|-------|------|------|------|--------|------|---|
|    |                             | LHQ | 637x10 <sup>3</sup>  | 6.01 | 7.1   | 2.51 | 9.1  | 26.93 | 4.67 | 0.61 | 3.21 | -0.53  | 27.7 | 2 |
|    |                             | RHQ | 247x10 <sup>3</sup>  | 6.02 | 4.79  | 3.21 | 9.69 | 28.66 | 4.99 | 0.66 | 3.42 | -0.576 | 27.1 | 2 |
| 43 | 7057                        | LFQ | 78x10 <sup>3</sup>   | 5.39 | 4.87  | 3.74 | 9.45 | 27.31 | 4.86 | 0.64 | 3.33 | -0.562 | 28.1 | 0 |
|    |                             | RFQ | <70x10 <sup>3</sup>  | 5.52 | 4.59  | 4.57 | 9.33 | 26.15 | 4.79 | 0.62 | 3.28 | -0.558 | 28.9 | 0 |
|    |                             | LHQ | <70x10 <sup>3</sup>  | 5.61 | 4.61  | 3.94 | 9.5  | 27.32 | 4.89 | 0.64 | 3.35 | -0.566 | 27.3 | 0 |
|    |                             | RHQ | 1489x10 <sup>3</sup> | 5.63 | 12.04 | 2.03 | 7.83 | 22.37 | 3.97 | 0.5  | 2.74 | -0.44  | 28.3 | 3 |
| 44 | 7108 (2<br>teat<br>present) | LFQ | -                    | -    | -     | -    | -    | -     | -    | -    | -    | -      | -    |   |
|    |                             | RFQ | 983x10 <sup>3</sup>  | 6.01 | 5.08  | 4.13 | 9.7  | 27.95 | 5    | 0.65 | 3.42 | -0.582 | 29.9 | 2 |
|    |                             | LHQ | -                    | -    | -     | -    | -    | -     | -    | -    | -    | -      | -    |   |
|    |                             | RHQ | 700x10 <sup>3</sup>  | 6    | 7.73  | 3.41 | 9.04 | 25.98 | 4.64 | 0.6  | 3.18 | -0.531 | 30   | 2 |
| 45 | 7192                        | LFQ | 1489x10 <sup>3</sup> | 6.08 | 6.39  | 6.11 | 8.21 | 20.56 | 4.18 | 0.52 | 2.87 | -0.487 | 28   | 3 |
|    |                             | RFQ | 82x10 <sup>3</sup>   | 6.09 | 4.55  | 4.76 | 9.21 | 25.55 | 4.73 | 0.61 | 3.24 | -0.551 | 28.8 | 0 |
|    |                             | LHQ | <70x10 <sup>3</sup>  | 6.07 | 4.37  | 4.27 | 9.49 | 27.02 | 4.88 | 0.64 | 3.35 | -0.568 | 28.6 | 0 |
|    |                             | RHQ | <70x10 <sup>3</sup>  | 6.06 | 4.17  | 5.13 | 9.22 | 25.28 | 4.74 | 0.61 | 3.24 | -0.554 | 28.6 | 0 |

|    |      |     |                       |      |      |      |      |       |      |      |      |        |      |   |
|----|------|-----|-----------------------|------|------|------|------|-------|------|------|------|--------|------|---|
| 46 | 7207 | LFQ | <70x10 <sup>3</sup>   | 5.84 | 8.3  | 4.15 | 8.62 | 23.75 | 4.41 | 0.56 | 3.03 | -0.506 | 28.7 | 0 |
|    |      | RFQ | 261x10 <sup>3</sup>   | 5.86 | 5.52 | 3.07 | 9.74 | 29.98 | 5.02 | 0.66 | 3.44 | -0.578 | 27.5 | 2 |
|    |      | LHQ | 1489x10 <sup>3</sup>  | 5.81 | 6.24 | 1.91 | 9.98 | 30.8  | 5.15 | 0.68 | 3.53 | -0.587 | 28.1 | 3 |
|    |      | RHQ | 1489x10 <sup>3</sup>  | 5.82 | 6.9  | 1.95 | 9.84 | 30.25 | 5.07 | 0.67 | 3.48 | -0.578 | 28.4 | 3 |
| 47 | 7270 | LFQ | <70x10 <sup>3</sup>   | 5.79 | 4.15 | 4.45 | 9.15 | 25.57 | 4.7  | 0.61 | 3.22 | -0.545 | 29.9 | 0 |
|    |      | RFQ | 261x10 <sup>3</sup>   | 5.83 | 4.19 | 4.54 | 9.22 | 25.75 | 4.73 | 0.61 | 3.24 | -0.55  | 30.2 | 2 |
|    |      | LHQ | 1489x10 <sup>3</sup>  | 5.87 | 5.96 | 4.72 | 8.51 | 22.86 | 4.35 | 0.55 | 2.98 | -0.501 | 30   | 3 |
|    |      | RHQ | 1489x10 <sup>3</sup>  | 5.94 | 9.1  | 2.86 | 8.09 | 22.71 | 4.11 | 0.52 | 2.84 | -0.462 | 29.4 | 3 |
| 48 | 7263 | LFQ | 139x10 <sup>3</sup>   | 6.01 | 4.05 | 4.51 | 9.46 | 26.73 | 4.87 | 0.63 | 3.34 | -0.568 | 26.2 | 1 |
|    |      | RFQ | 142x10 <sup>3</sup>   | 6.01 | 4    | 4.86 | 9.38 | 26.13 | 4.82 | 0.63 | 3.3  | -0.564 | 28.3 | 1 |
|    |      | LHQ | 198x10 <sup>3</sup>   | 6.03 | 4.36 | 4.33 | 9.44 | 26.77 | 4.85 | 0.63 | 3.33 | -0.565 | 28.2 | 1 |
|    |      | RHQ | 1489 x10 <sup>3</sup> | 6.05 | 4.22 | 4.93 | 9.24 | 25.54 | 4.75 | 0.61 | 3.25 | -0.555 | 27.4 | 3 |

|    |                             |     |                     |      |      |      |       |       |      |      |      |        |      |   |
|----|-----------------------------|-----|---------------------|------|------|------|-------|-------|------|------|------|--------|------|---|
| 49 | 7269 (3<br>teat<br>present) | RFQ | 100x10 <sup>3</sup> | 5.82 | 4.69 | 1.47 | 10.78 | 34.29 | 5.59 | 0.75 | 3.83 | -0.641 | 29.7 | 1 |
|    |                             | LHQ | 107x10 <sup>3</sup> | 5.79 | 4.7  | 2.84 | 10.27 | 31.2  | 5.31 | 0.71 | 3.64 | -0.614 | 29.7 | 1 |
|    |                             | RHQ | 74x10 <sup>3</sup>  | 5.75 | 4.68 | 1.64 | 10.68 | 33.76 | 5.53 | 0.74 | 3.79 | -0.635 | 29.8 | 0 |
| 50 | 7319                        | LFQ | <70x10 <sup>3</sup> | 5.99 | 4.58 | 3.49 | 9.63  | 28.18 | 4.96 | 0.65 | 3.4  | -0.573 | 26.6 | 0 |
|    |                             | RFQ | <70x10 <sup>3</sup> | 5.94 | 4.79 | 3.72 | 9.4   | 27.12 | 4.83 | 0.63 | 3.32 | -0.558 | 26.6 | 0 |
|    |                             | LHQ | <70x10 <sup>3</sup> | 5.95 | 4.95 | 3.93 | 9.31  | 26.59 | 4.78 | 0.62 | 3.28 | -0.553 | 26.7 | 0 |
|    |                             | RHQ | <70x10 <sup>3</sup> | 5.98 | 6.12 | 3.23 | 8.96  | 25.81 | 4.59 | 0.6  | 3.16 | -0.524 | 26.3 | 0 |

**Supplementary Figure 1: Distribution of proteins on the basis of MW and pI**



**Supplementary Table 2: List of Differentially Expressed Proteins**

| Sr<br>No | Protein                                                                | Gene<br>Symbol | Peptides | Experiment 1     |                 | Experiment 2     |                 |
|----------|------------------------------------------------------------------------|----------------|----------|------------------|-----------------|------------------|-----------------|
|          |                                                                        |                |          | FC<br>(SCM vs N) | FC<br>(CM vs N) | FC<br>(SCM vs N) | FC<br>(CM vs N) |
| 1        | Hypothetical Protein                                                   |                | 4        | 22.7             | 19.65           |                  |                 |
| 2        | Chitinase-3-Like Protein 1                                             | CHI3L1         | 7        | 4.05             | 9.99            | 5.27             | 10.01           |
| 3        | Glutamate--Cysteine Ligase<br>Catalytic Subunit                        | GCLC           | 2        | 6.27             | 8.43            | 7.72             | 7.49            |
| 4        | Glycogen Phosphorylase, Brain<br>Form                                  | PYGB           | 2        | 6.10             | 7.9             | 8.10             | 7               |
| 5        | Transmembrane Channel-Like<br>Protein 2                                | TMC2           | 2        | 6.06             | 7.47            | 7.6              | 6.5             |
| 6        | Low-Density Lipoprotein<br>Receptor-Related Protein 2-Like,<br>Partial | LRP2           | 3        | 5.13             | 17.3            | 6.3              | 16.79           |
| 7        | Nephrocystin-3                                                         | NPHP3          | 2        | 4.31             | 1.58            | 5.35             | 1.78            |
| 8        | Protein-Coupled Receptor 44                                            | GPR44G         | 2        | 3.77             | 17.70           | 3.79             | 16.9            |
| 9        | Uncharacterized Protein                                                | EPPK1          | 3        | 3.62             | 3.36            | 3.61             | 3.47            |

|    |                                                                            |          |   |      |       |      |       |
|----|----------------------------------------------------------------------------|----------|---|------|-------|------|-------|
| 10 | Leucine Zipper Putative Tumor Suppressor 2                                 | LZTS2    | 3 | 3.61 | 5.97  | 3.89 | 5.47  |
| 11 | Cytosolic 5'-Nucleotidase                                                  | NT5C1A   | 2 | 3.5  | 1.48  | 3.67 | 1.69  |
| 12 | Dysferlin-Like                                                             | FER1L6   | 2 | 3.30 | 4.78  | 3.9  | 4.54  |
| 13 | Uncharacterized Protein                                                    | SART1    | 2 | 3.25 | 3.34  | 4.25 | 4.34  |
| 14 | Aldehyde Dehydrogenase Family 16 Member A1                                 | ALDH16A1 | 2 | 3.22 | 1.27  | 3.67 | 1.57  |
| 15 | Histone-Lysine N-Methyltransferase Setmar                                  | SETMAR   | 2 | 3.18 | 6.1   | 3.89 | 5.87  |
| 16 | Myosin-7                                                                   | MYH7     | 4 | 3.15 | 4.24  | 3.2  | 4.67  |
| 17 | Cathelicidin-6                                                             | CATHL6   | 4 | 3.15 | 11.23 | 3.5  | 10.87 |
| 18 | Leucine Rich Repeat And Coiled-Coil Domain Containing 1                    | LRRCC1   | 2 | 3.05 | 1.01  | 3.52 | 1.2   |
| 19 | Bifunctional Udp-N-Acetylglucosamine 2Epimerase/N-Acetylmannosamine Kinase | GNE      | 2 | 2.94 | 3.08  | 3.84 | 3.67  |
| 20 | 186 Kda Protein                                                            | LTBP1    | 2 | 2.68 | 4.78  | 2.89 | 4.35  |

|    |                                                           |                  |    |      |      |      |      |
|----|-----------------------------------------------------------|------------------|----|------|------|------|------|
| 21 | Uncharacterized Protein                                   | ARHGAP1<br>1A    | 2  | 2.65 | 2.36 | 2.45 | 2.89 |
| 22 | Mediator Of Rna Polymerase Ii<br>Transcription Subunit 12 | MED12            | 2  | 2.52 | 1.3  | 2.9  | 1.67 |
| 23 | Cation Channel,<br>SpermAssociated, Beta                  | CATSPER<br>B     | 3  | 2.43 | 2.32 | 2.66 | 2.89 |
| 24 | Rab Gdp Dissociation Inhibitor<br>Beta                    | GDI2             | 6  | 2.42 | 3.11 | 2.9  | 3.47 |
| 25 | Uncharacterized Protein                                   | MAP4K1           | 2  | 2.41 | 2.63 | 2.78 | 2.52 |
| 26 | Gelsolin                                                  | GSN              | 15 | 2.37 | 4.21 |      |      |
| 27 | Cation-Transporting P5-<br>AtpaseLike                     | ATP13A4          | 2  | 2.27 | 1.85 | 2.49 | 2.1  |
| 28 | Renin Receptor                                            | ATP6AP2          | 2  | 2.24 | 3.5  | 2.47 | 3.67 |
| 29 | Protein Diaphanous Homolog 3                              | DIAPH3           | 3  | 2.23 | 2.16 | 2.10 | 2.46 |
| 30 | Dynein, Axonemal, Heavy<br>Chain 5-Like                   | LOC10029<br>8754 | 10 | 2.03 | 3.37 |      |      |
| 31 | Lipopolysaccharide-Binding<br>Protein                     | LBP              | 3  | 2.02 | 2.82 | 3.1  | 8.5  |

|    |                                                                 |        |    |      |      |      |      |
|----|-----------------------------------------------------------------|--------|----|------|------|------|------|
| 32 | Uncharacterized Protein                                         | C4A    | 16 | 2    | 4.82 | 1.4  | 2.2  |
| 33 | Uncharacterized Protein                                         | AKAP10 | 2  | 2.22 | 2.62 | 2.36 | 2.9  |
| 34 | Temporarily Assigned Gene Name<br>Family Member (Tag163)-Like   | TNS3   | 2  | 2.19 | 1.19 | 2.4  | 2.1  |
| 35 | Neuropilin- And Tolloid-Like<br>Protein 2                       | NETO2  | 2  | 2.15 | 3.54 | 2.1  | 4.1  |
| 36 | Zinc Finger And Btb Domain<br>Containing 16                     | ZBTB16 | 2  | 2.14 | 3.03 | 2.4  | 3.4  |
| 37 | Uncharacterized Protein                                         | ZNF276 | 2  | 2.10 | 1.84 | 2.4  | 1.64 |
| 38 | Soform 1 Of Active Breakpoint<br>Cluster Region-Related Protein | ABR I  | 2  | 2.10 | 0.91 | 2.5  | 1.1  |
| 39 | Stau2 Protein                                                   | STAU2  | 2  | 2.08 | 4.44 | 2.5  | 1.43 |
| 40 | Uncharacterized Protein                                         | CADPS2 | 3  | 2.03 | 1.63 | 2.4  | 2.74 |
| 41 | Leucine-Rich Repeat<br>Transmembrane Protein Flrt3              | FLRT3  | 4  | 1.97 | 2.38 | 2.1  | 2.6  |
| 42 | Ring Finger Protein 40                                          | RNF40  | 3  | 1.97 | 2.37 | 2.05 | 2.67 |
| 43 | Adp-Ribosylation Factor-Like 13B                                | ARL13B | 2  | 1.97 | 2.3  | 2.2  | 2.1  |

|    |                                                   |        |    |      |      |      |      |
|----|---------------------------------------------------|--------|----|------|------|------|------|
| 44 | Uncharacterized Protein                           | NFKB2  | 2  | 1.94 | 3.36 | 2.46 | 3.54 |
| 45 | Synaptonemal Complex Protein2                     | SYCP2  | 3  | 1.92 | 2.15 | 2.12 | 2.4  |
| 46 | Isoform Long Of Polymeric Immunoglobulin Receptor | PIGR   | 46 | 1.91 | 3.68 | 1.6  | 2.53 |
| 47 | Uncharacterized Protein                           | CCNL1  | 2  | 1.90 | 2.31 | 2.1  | 2.51 |
| 48 | Uncharacterized Protein                           | #####  | 2  | 1.89 | 3.38 | 2.1  | 3.4  |
| 49 | Peptidyl-Prolyl Cis-Trans Isomerase C             | PPIC   | 3  | 1.88 | 1.11 | 2.1  | 1.21 |
| 50 | Uncharacterized Protein                           | LTBP2  | 2  | 1.88 | 0.99 | 2.1  | 1.1  |
| 51 | Uncharacterized Protein                           | GCC1   | 2  | 1.88 | 2.09 | 2.15 | 2.2  |
| 52 | 39S Ribosomal Protein L37, Mitochondrial          | MRPL37 | 3  | 1.81 | 2.54 | 2.1  | 2.5  |
| 53 | Atpase, Class V, Type 10A                         | ATP10A | 2  | 1.81 | 1.29 | 2.15 | 1.5  |
| 54 | Uncharacterized Protein (Fragment)                | STXBP5 | 2  | 1.81 | 2.62 | 2.2  | 2.4  |
| 55 | Heat Shock 70 Kda Protein 13                      | HSPA13 | 3  | 1.80 | 1.56 | 2.1  | 2.7  |
| 56 | Cingulin                                          | CGN    | 3  | 1.79 | 2.08 | 2.1  | 2.2  |
| 57 | Uncharacterized Protein                           | AFF3   | 3  | 1.79 | 3.67 | 2.15 | 3.4  |

|    |                                                  |         |    |      |      |      |      |
|----|--------------------------------------------------|---------|----|------|------|------|------|
| 58 | Profilin-1                                       | PFN1    | 3  | 1.78 | 2.49 | 1.9  | 2.6  |
| 59 | Igll1 Protein                                    | IGLL1   | 34 | 1.76 | 1.81 | 1.92 | 2.05 |
| 60 | Advillin                                         | AVIL    | 2  | 1.76 | 7.6  | 1.91 | 6.9  |
| 61 | Troponin T Fast Skeletal Muscle Type             | TNNT3   | 2  | 1.76 | 3.06 | 1.83 | 3.2  |
| 62 | Tbc1 Domain Containing Kinase Isoform 3          | TBCK    | 4  | 1.75 | 1.89 | 1.79 | 1.91 |
| 63 | Uncharacterized Protein                          | BMP2    | 2  | 1.75 | 3.38 | 1.89 | 3.5  |
| 64 | Isoform Short Of Beta-1,4Galactosyltransferase 1 | B4GALT1 | 8  | 1.74 | 1.75 |      |      |
| 65 | Igl@ Protein                                     | IGL@    | 52 | 1.74 | 1.40 | 2.05 | 2.1  |
| 66 | Mitogen-Activated Protein Kinase 6               | MAPK6   | 4  | 1.64 | 1.83 |      |      |
| 67 | Osteopontin                                      | SPP1    | 22 | 1.60 | 4.08 | 1.05 | 1.72 |
| 68 | Fibrinogen Alpha Chain                           | FGA     | 16 | 1.53 | 1.30 | 1.6  | 1.7  |
| 69 | Thrombospondin-1                                 | THBS1   | 19 | 1.46 | 2.48 | 1.4  | 3.33 |
| 70 | Inter-Alpha-Trypsin Inhibitor Heavy Chain H1     | ITIH1   | 4  | 1.41 | 1.75 | 2.7  | 2.3  |

|    |                                                    |            |    |      |      |      |      |
|----|----------------------------------------------------|------------|----|------|------|------|------|
| 71 | Collagen,TypeXxii,Alpha 1-Like                     | COL22A1    | 2  | 1.39 | 1.50 |      |      |
| 72 | Fibronectin                                        | FN1        | 7  | 1.05 | 1.32 |      |      |
| 73 | Isoform Lmw Of Kininogen-2                         | KNG1       | 15 | 0.98 | 0.91 | 1.2  | 2.05 |
| 74 | Isoform Lmw Of Kininogen-1                         | KNG1       | 14 | 0.98 | 0.91 | 1.05 | 1.85 |
| 75 | Beta-Lactoglobulin                                 | PAEP       | 64 | 0.95 | 0.63 | 1.05 | 1.62 |
| 76 | Uncharacterized Protein                            | DYNC1H1    | 6  | 0.79 | 0.4  | 0.72 | 0.51 |
| 77 | Serpin A3-4                                        | SERPINA3-3 | 18 | 0.78 | 1.00 | 0.71 | 1.1  |
| 78 | Uncharacterized Protein                            | SERPINA3-8 | 10 | 0.78 | 1.00 | 0.76 | 1.05 |
| 79 | Uncharacterized Protein                            | CHD2       | 2  | 0.78 | 1.77 | 0.75 | 1.87 |
| 80 | Uncharacterized Protein                            | CD44       | 2  | 0.77 | 1.29 | 0.73 | 1.39 |
| 81 | Dead (Asp-Glu-Ala-Asp) Box Polypeptide 5 Isoform 1 | DDX5       | 2  | 0.76 | 1.12 | 0.72 | 1.22 |
| 82 | Nucleolin                                          | NCL        | 5  | 0.74 | 1.73 | 0.71 | 1.79 |
| 83 | Uncharacterized Protein                            | LBR        | 2  | 0.70 | 0.74 | 0.71 | 0.79 |

|    |                                  |         |   |      |      |      |      |
|----|----------------------------------|---------|---|------|------|------|------|
| 84 | Putative Malate Dehydrogenase 1B | MDH1B   | 3 | 0.63 | 1.62 |      |      |
| 85 | Uncharacterized Protein          | GAD2    | 2 | 0.61 | 1.05 | 0.63 | 1.62 |
| 86 | Uncharacterized Protein          | MYO18A  | 5 | 0.60 | 2.31 | 0.63 | 2.6  |
| 87 | Uncharacterized Protein          | CLASP2  | 2 | 0.57 | 1.1  | 0.61 | 0.89 |
| 88 | Tripeptidyl-Peptidase 1          | TPP1    | 2 | 0.54 | 0.88 | 0.56 | 0.91 |
| 89 | Uncharacterized Protein          | NEK8    | 3 | 0.53 | 5.45 | 0.59 | 5.6  |
| 90 | Filamin-A-Interacting Protein 1  | FILIP1  | 3 | 0.31 | 1.2  | 0.35 | 1.4  |
| 91 | Transcription Factor 5-Like      | E2F5E2F | 2 | 0.25 | 0.8  | 0.29 | 0.84 |
| 92 | Centromere Protein N             | CENPN   | 2 | 0.13 | 2.81 | 0.21 | 2.88 |

**Supplementary Table 3: Enriched Processes revealed By Panther**

| <b>S.No</b> | <b>Enriched biological process</b>                      | <b>log p value</b> | <b>Fold Enrichment</b> |
|-------------|---------------------------------------------------------|--------------------|------------------------|
| 1           | Maintenance of mitochondrion location                   | 6.25077213         | 76.15                  |
| 2           | Maintenance of organelle location                       | 5.11311704         | 34.61                  |
| 3           | Acute-phase response                                    | 4.44360665         | 21.76                  |
| 4           | Acute inflammatory response                             | 3.92884404         | 15.23                  |
| 5           | Maintenance of location in cell                         | 3.55090066         | 11.72                  |
| 6           | Maintenance of location                                 | 3.19219417         | 9.14                   |
| 7           | Humoral immune response                                 | 3.16349873         | 8.96                   |
| 8           | Inflammatory response                                   | 2.36737107         | 5.16                   |
| 9           | Microtubule-based process                               | 1.96716861         | 3.91                   |
| 10          | Cell cycle process                                      | 1.78659636         | 3.45                   |
| 11          | Cytoskeleton organization                               | 1.78240856         | 3.44                   |
| 12          | Cell cycle                                              | 1.56559718         | 2.96                   |
| 13          | Positive regulation of developmental process            | 1.41142625         | 2.66                   |
| 14          | Positive regulation of multicellular organismal process | 1.33913738         | 2.53                   |
| 15          | Multi-organism process                                  | 1.28095631         | 2.43                   |
| 16          | Response to stress                                      | 1.22650853         | 2.34                   |
| 17          | Macromolecule localization                              | 1.22032995         | 2.33                   |
| 18          | Organelle organization                                  | 1.04963077         | 2.07                   |
| 19          | Cellular component organization                         | 0.97819563         | 1.97                   |
| 20          | Transport                                               | 0.94110631         | 1.92                   |

|    |                                               |            |      |
|----|-----------------------------------------------|------------|------|
| 21 | Cellular component organization or biogenesis | 0.94110631 | 1.92 |
| 22 | Establishment of localization                 | 0.93357264 | 1.91 |
| 23 | Localization                                  | 0.93357264 | 1.91 |
| 24 | Cellular process                              | 0.50589093 | 1.42 |
| 25 | Biological regulation                         | 0.45417589 | 1.37 |
| 26 | Biological process                            | 0.25096157 | 1.19 |

| <b>S.No</b> | <b>GO molecular function</b>               | <b>log p value</b> | <b>Fold Enrichment</b> |
|-------------|--------------------------------------------|--------------------|------------------------|
| 1           | Endopeptidase inhibitor activity           | -5.9748294         | 7.07                   |
| 2           | Endopeptidase regulator activity           | -5.6510878         | 6.85                   |
| 3           | Drug binding                               | -18.395516         | 2.54                   |
| 4           | Carbohydrate derivative binding            | -24.630566         | 2.48                   |
| 5           | Anion binding                              | -28.381338         | 2.4                    |
| 6           | ATP binding                                | -12.505304         | 2.4                    |
| 7           | Adenyl ribonucleotide binding              | -12.331656         | 2.39                   |
| 8           | Adenyl nucleotide binding                  | -12.302212         | 2.39                   |
| 9           | Small molecule binding                     | -16.60964          | 2.16                   |
| 10          | Purine ribonucleoside triphosphate binding | -9.7894615         | 2.15                   |
| 11          | Purine ribonucleotide binding              | -10.087648         | 2.14                   |
| 12          | Ribonucleotide binding                     | -10.032212         | 2.13                   |
| 13          | Purine nucleotide binding                  | -10.014196         | 2.13                   |
| 14          | Nucleotide binding                         | -7.4985048         | 1.99                   |
| 15          | Nucleoside phosphate binding               | -7.4985048         | 1.99                   |
| 16          | Ion binding                                | -11.574017         | 1.62                   |
| 17          | Protein binding                            | -7.166697          | 1.61                   |
| 18          | Binding                                    | -13.996109         | 1.39                   |
| 19          | Transmembrane signaling receptor activity  | -4.8868329         | 0.79                   |

| <b>S.No</b> | <b>GO cellular component complete</b>             | <b>log p value</b> | <b>Fold Enrichment</b> |
|-------------|---------------------------------------------------|--------------------|------------------------|
| 1           | Ciliary plasm                                     | -6.4050693         | 10.06                  |
| 2           | Axoneme                                           | -6.4050693         | 10.06                  |
| 3           | Melanosome                                        | -7.7894615         | 9.37                   |
| 4           | Pigment granule                                   | -7.7894615         | 9.37                   |
| 5           | Midbody                                           | -9.9231399         | 7.04                   |
| 6           | Plasma membrane bounded cell projection cytoplasm | -6.4803575         | 6.92                   |
| 7           | Extracellular space                               | -31.992772         | 4.88                   |
| 8           | Extracellular region part                         | -31.042958         | 4.12                   |
| 9           | Extracellular region                              | -39.114676         | 3.57                   |
| 10          | Cytoskeletal part                                 | -9.7894615         | 2.56                   |
| 11          | Cytoplasmic vesicle                               | -5.72547           | 2.42                   |
| 12          | Intracellular vesicle                             | -5.7027499         | 2.41                   |
| 13          | Cytoskeleton                                      | -10.396293         | 2.38                   |
| 14          | Vesicle                                           | -5.4422223         | 2.33                   |
| 15          | Protein-containing complex                        | -14.000831         | 1.91                   |
| 16          | Endomembrane system                               | -5.0978878         | 1.83                   |
| 17          | Intracellular non-membrane-bounded organelle      | -6.4173477         | 1.78                   |
| 18          | Non-membrane-bounded organelle                    | -6.4050693         | 1.78                   |
| 19          | Cytoplasmic part                                  | -6.9301604         | 1.52                   |
| 20          | Organelle part                                    | -5.4868125         | 1.48                   |
| 21          | Intracellular organelle part                      | -4.8911076         | 1.48                   |
| 22          | Cytoplasm                                         | -6.9231399         | 1.44                   |
| 23          | Organelle                                         | -10.124214         | 1.42                   |

## Supplementary Figure 2: Validation of protein targets using Western Blot

