

**Table S1:** Hematological and biochemical blood results from a Holstein calf with CACNAIS-related early-onset muscle weakness (MW) syndrome

| Parameter                       | Units       | MW Case   | Reference values |
|---------------------------------|-------------|-----------|------------------|
| <b>Hematology</b>               |             |           |                  |
| RBC                             | L/L         | 0.21      | 0.19-0.34        |
| Erythrocytes                    | 10e12/L     | 6.66      | 4.76-9.34        |
| Total hb                        | mmol/L      | 4.10      | 3.7-7.5          |
| MCV                             | fL          | 31        | 33.6-43.9        |
| MCH                             | fmol        | 0.62      | 0.69-0.88        |
| MCHC                            | mmol/L      | 19.98     | 18.8-22.1        |
| RDW                             | %           | 35.4      | 16.4-23.2        |
| Platelet count                  | 10e9/L      | 877       | 165-470          |
| MPV                             | fL          | 6.8       | 4.8-6.8          |
| WBC                             | 10e9/L      | 8.29      | 4.8-12.2         |
| WBC corrected                   | 10e9/L      | 8.29      | 4.91-11.34       |
| <b>Differential blood count</b> |             |           |                  |
| Normoblasts %                   | per 100 WBC | 0         |                  |
| Band neutrophils %              | %           | 1         | 0-1.4            |
| Segmented neutrophil %          |             | 50.5      | 19.9-56.7        |
| Lymphocytes %                   | %           | 43.5      | 31.4-73.2        |
| Monocytes %                     | %           | 4         | 1.1-14.8         |
| Eosinophils %                   | %           | 0.5       | 0-3.8            |
| Basophils %                     | %           | 0.5       | 0-0.8            |
| Normoblasts                     | 10e9/L      | 0         |                  |
| Band neutrophils                | 10e9/L      | 0.08      | 0-1.8            |
| Segmented neutrophil            | 10e9/L      | 4.19      | 1.12-5.68        |
| Lymphocytes                     | 10e9/L      | 3.61      | 2.26-7.06        |
| Monocytes                       | 10e9/L      | 0.33      | 0.92-1.26        |
| Eosinophils                     | 10e9/L      | 0.04      | 0-0.27           |
| Basophils                       | 10e9/L      | 0.04      | 0-0.06           |
| <b>Erythrocyte morphology</b>   |             |           |                  |
| Anisocytosis                    |             | +++       |                  |
| <b>Platelet morphology</b>      |             |           |                  |
| platelet clumping               |             | occurring |                  |

## Biochemistry

|                 |        |      |             |
|-----------------|--------|------|-------------|
| Hemolysis index |        | 12   |             |
| Icterus index   |        | 0    |             |
| Lipemia index   |        | 13   |             |
| Sodium          | mmol/L | 136  | 139.2-147.6 |
| Potassium       | mmol/L | 5.31 | 4.66-6.92   |
| Chloride        | mmol/L | 92   | 91.8-103.5  |
| Calcium         | mmol/L | 2.91 | 2.46-3.66   |
| Phosphate       | mmol/L | 2.58 | 2.62-3.84   |
| Magnesium       | mmol/L | 0.8  | 0.69-1.04   |
| Cholesterol     | mmol/L | 2.11 | 1.93-5.09   |
| Triglycerides   | mmol/L | 0.42 | 0-0.575     |
| Total protein   | g/L    | 72.1 | 50.7-71.1   |
| Albumin         | g/L    | 34.6 | 27.0-34.2   |
| Globulin        | g/L    | 37.5 | 30.1-56.1   |
| BUN             | mmol/L | 4.3  | 1.44-5.92   |
| Creatinine      | μmol/L | 43   | 62.3-133.0  |
| Bilirubin       | μmol/L | 3.7  | 1.56-5.62   |
| AST             | IU     | 42   | 49-151      |
| CK              | IU     | 85   | 10.9-108.3  |
| GGT             | IU     | 145  | 11.3-152    |
| GLDH            | IU     | 15   | 3.9-24      |
| LDH             | IU     | 593  | 716-1471    |

### Abbreviations:

RBC = red blood cells, hb = hemoglobin, MCV = mean corpuscular volume,

MCH = mean corpuscular hemoglobin, MCHC = mean corpuscular hemoglobin concentration,

RDW = red cell distribution width, MPV = mean platelet volume, WBC = white blood count,

BUN = blood urea nitrogen, AST = aspartate aminotransferase, CK = creatine kinase,

GGT = gamma-glutamyl transferase, GLDH = glutamate dehydrogenase,

LDH = lactate dehydrogenase.