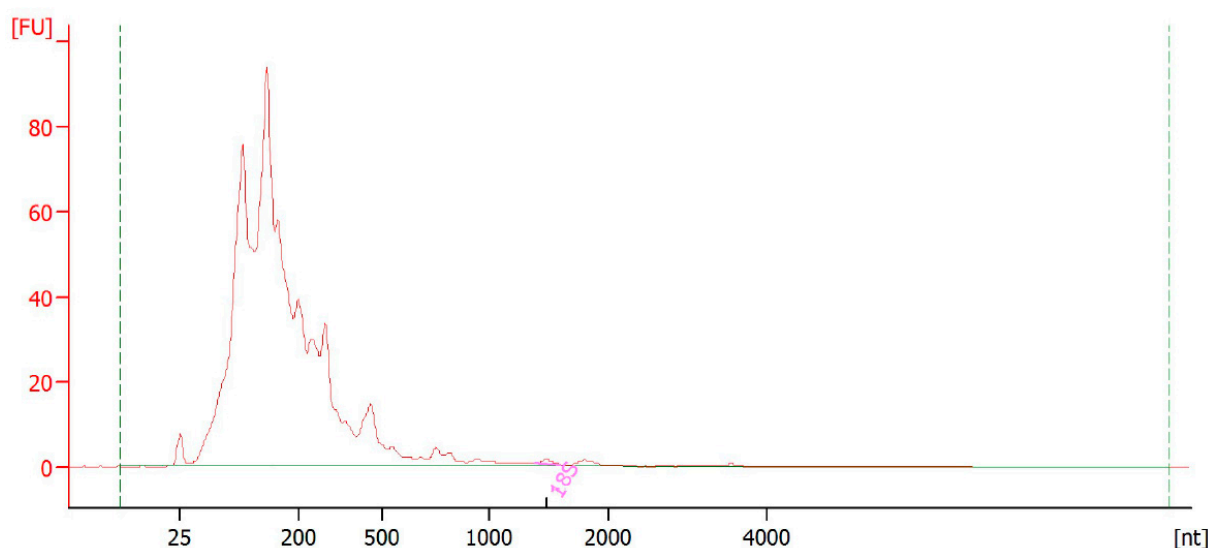


Supplementary File

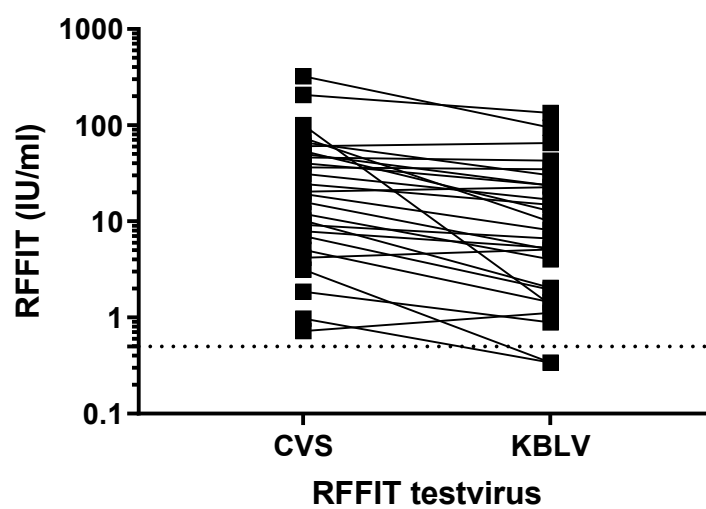
# Genetic and antigenetic characterization of the novel Kotalahti bat lyssavirus (KBLV)

**Table 1.** Reference sequences of the 17 lyssavirus species included in the phylogenetic tree for the classification of the KBLV genome.

| Lyssavirus species            | Abbreviation | Accession number | Sequence length [b] |
|-------------------------------|--------------|------------------|---------------------|
| Aravan lyssavirus             | ARAV         | NC_020808.1      | 11918               |
| Australian bat lyssavirus     | ALBV         | NC_003243.1      | 11822               |
| Gannoruwa bat lyssavirus      | GBLV         | NC_031988.1      | 11919               |
| Bokeloh bat lyssavirus        | BBLV         | NC_025251.1      | 11900               |
| Khujand lyssavirus            | KHUV         | NC_025385.1      | 11903               |
| European bat 1 lyssavirus     | EBLV-1       | NC_009527.1      | 11966               |
| European bat 2 lyssavirus     | EBLV-2       | NC_009528.2      | 11930               |
| Duvenhage lyssavirus          | DUUV         | NC_020810.1      | 11976               |
| Taiwan bat lyssavirus         | TWBLV        | MF472710.1       | 11988               |
| Irkut lyssavirus              | IRKV         | NC_020809.1      | 11980               |
| Shimoni bat lyssavirus        | SHIBV        | NC_025365.1      | 12045               |
| Mokola lyssavirus             | MOKV         | NC_006429.1      | 11940               |
| Lledia bat lyssavirus         | LLEBV        | NC_031955.1      | 11931               |
| West Caucasian bat lyssavirus | WCBV         | NC_025377.1      | 12278               |
| Lagos bat lyssavirus          | LBV          | NC_020807.1      | 12016               |
| Ikoma lyssavirus              | IKOV         | NC_018629.1      | 11902               |
| Rabies lyssavirus             | RABV         | NC_001542.1      | 11932               |



**Figure 1.** Bioanalyzer 2100 RNA 6000 Pico chip measurement of the extracted RNA originating from the inoculum precipitate. The high proportion of small RNA fragments indicates a high level of decomposition of the original sample material.



**Figure 2.** Graph showing individual concentrations of virus neutralizing antibodies as measured using CVS and RABV pseudotyped with KBLV-G as test virus. 0.5 IU/ml as the threshold for adequate immune response is indicated as dashed line.

**Table 2.** Genome organisation of the 17 known lyssavirus species and the new discovered Kotalahti bat lyssavirus.

|                  | RABV    | LBV      | MOKV     | DUVV    | EBLV-1 | EBLV-2    | ABLV      | ARAV  | KHUV  | IRKV  | WCB<br>V | SHIB<br>V | BBL<br>V  | IKOV  | GBLV  | LLEBV | TWBLV | KBLV  |
|------------------|---------|----------|----------|---------|--------|-----------|-----------|-------|-------|-------|----------|-----------|-----------|-------|-------|-------|-------|-------|
| 3'UTR            | 70      | 70       | 70       | 70      | 70     | 70        | 70        | 70    | 70    | 07    | 70       | 70        | 70        | 70    | 70    | 70    | 70    | 70    |
| <b>N protein</b> | 1353    | 1353     | 1353     | 1356    | 1356   | 1356      | 1353      | 1356  | 1356  | 1356  | 1353     | 1353      | 1356      | 1353  | 1353  | 1353  | 1356  | 1356  |
| N-P              | 90-91   | 101      | 100-102  | 90      | 90     | 101       | 94        | 85    | 95    | 93    | 64       | 98        | 91        | 66    | 92    | 68    | 99    | 86    |
| <b>P protein</b> | 894     | 918      | 912      | 897     | 897    | 894       | 894       | 894   | 894   | 897   | 894      | 918       | 894       | 870   | 894   | 870   | 897   | 894   |
| P-M              | 88      | 75       | 80       | 83      | 83     | 88        | 89        | 85    | 72    | 82    | 133      | 76        | 86        | 74    | 88    | 74    | 82    | 63    |
| <b>M protein</b> | 609     | 609      | 609      | 609     | 609    | 609       | 609       | 609   | 609   | 609   | 609      | 609       | 609       | 609   | 609   | 609   | 609   | 609   |
| M-G              | 211-5   | 204      | 203-204  | 191     | 211    | 210 (205) | 207-209   | 210   | 208   | 214   | 206      | 205       | 210       | 209   | 212   | 198   | 212   | 210   |
| <b>G protein</b> | 1575    | 1569     | 1569     | 1602    | 1575   | 1575      | 1578-1581 | 1581  | 1581  | 1575  | 1578     | 1569      | 1575      | 1575  | 1581  | 1578  | 1659  | 1581  |
| G-L              | 522     | 578-588  | 546-563  | 562-563 | 560    | 512       | 508-509   | 514   | 504   | 569   | 862      | 613       | 496       | 569   | 505   | 608   | 518   | 501   |
| <b>L protein</b> | 6384*   | 6384     | 6384     | 6384    | 6384   | 6384      | 6384      | 6384  | 6384  | 6384  | 6384     | 6384      | 6384      | 6381  | 6384  | 6381  | 6384  | 6384  |
| 5'UTR            | 131     | 145      | 112-114  | 130-131 | 131    | 131       | 131       | 130   | 130   | 131   | 125      | 150       | 129       | 126   | 131   | 122   | 70    | 124   |
| <b>Genome</b>    | 11923-8 | 12006-16 | 11940-57 | 11975-6 | 11966  | 11930     | 11918     | 11918 | 11903 | 11980 | 12278    | 12045     | 1190<br>0 | 11902 | 11919 | 11931 | 11988 | 11878 |

**Table 3.** RFFIT results of human sera using different test viruses for neutralization. The titre was converted in international units (IU) per millilitre and log10 transformed.

| Lab-ID | CVS   | KBLV  | EBLV-1 | EBLV-2 | BBLV  |
|--------|-------|-------|--------|--------|-------|
| 14448  | 2,32  | 2,13  | 2,13   | 2,26   | 1,96  |
| 14450  | 2,51  | 1,97  | 2,10   | 2,03   | 1,61  |
| 14459  | 1,87  | 1,00  | 1,26   | 1,27   | 0,12  |
| 14471  | 0,50  | -0,47 | -0,47  | 0,26   | 0,86  |
| 14476  | 0,27  | -0,05 | 0,71   | 0,13   | 0,74  |
| 14477  | 0,96  | 0,82  | 0,28   | 0,51   | 0,52  |
| 14481  | -0,01 | -0,47 | 0,11   | -0,06  | 0,42  |
| 14489  | 2,00  | 0,13  | 0,16   | 0,16   | 0,84  |
| 14491  | 1,56  | 1,54  | 1,08   | 1,05   | 1,12  |
| 14505  | 1,82  | 1,48  | 1,76   | 1,24   | 0,89  |
| 14742  | 1,67  | 1,63  | 1,28   | 1,23   | 1,58  |
| 14743  | 1,31  | 1,35  | -0,88  | 0,89   | 1,09  |
| 14746  | 1,78  | 1,82  | 1,38   | 1,50   | 1,48  |
| 14755  | 0,90  | 0,72  | 0,72   | 0,80   | 0,37  |
| 14756  | 1,28  | 0,91  | 0,96   | 1,09   | 0,55  |
| 14759  | -0,14 | 0,05  | -0,34  | -0,18  | -0,75 |
| 15249  | 0,85  | 0,29  | 0,41   | 0,56   | 0,94  |
| 15255  | 1,08  | 0,60  | 0,80   | 0,62   | 0,88  |
| 15263  | 0,70  | 0,16  | -0,02  | 0,43   | 0,44  |
| 15269  | 1,73  | 1,11  | 0,26   | 0,66   | 1,05  |
| 15270  | 1,01  | 0,31  | 0,30   | 0,68   | 0,82  |
| 15274  | 1,20  | 0,71  | 0,69   | 0,86   | 1,33  |
| 15275  | 1,39  | 1,17  | 1,14   | 1,10   | 0,92  |
| 15307  | 1,70  | 1,37  | 1,14   | 1,66   | 1,24  |
| 15315  | 1,61  | 1,38  | 1,33   | 1,49   | 1,43  |
| 15319  | 0,62  | 0,71  | 0,38   | 0,32   | 0,10  |
| 15325  | 1,49  | 1,22  | 0,96   | 1,09   | 1,00  |