**Table S4.** Functional domains in encoded SERV proteins.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Gene** | **Domain or function** | **MPMV a** | **SERV-1 (% conservation)** | **SERV-2 (% conservation)** | **Reference(s)** |
| Gag pp24/pp16 | Late budding domain | PPPYX4PSAP | PPPYNKTXNEASAP (100%) | PPPYNGTXNGASAP (89%) | [1,2] |
| Gag Np24 | Viral RNA packaging | KKPKR | NKPKK (97%) | NKQKK (67%) | [2] |
| Gag NC | Reverse transcription, RNA packaging, viral assembly | KNKEK | KEALK (100%) | KEALK (100%) | [3] |
| PR | N-terminal autoprocessing | SSDIY|WVQPI | SSD/EIY|WVQPI (80%) | SSDIY/WVQPI (33%) | [4] |
| PR/RT | Reverse transcription (G-patch domain) | QMLAQGYSPGKGLGKKENGILHPIPNQGQSNKKGFGNF | QMLTQGYTPGKGLGKGENGIPQPILVSGQLDKKGFGNF (88%) | QMLTQGYTPGKGLGKKENGIPQPIPVSGQLDKKGFGNF (93%) | [5] |
| RT/RNAseH | Catalytic residues “D10, E48, D70, H124, D134” | D13, E53, D86, H131, D134 | D10, E51, D85, H129, D132 ( 100%) | D10, E51, D85, H129 (100%), D132 (93%) | [6] |
| RT | Enzymatic activity (YXDD-box) | HYMDD | HYMDD (97%) | HYMDD (86%) | [7,8] |
| Env | Receptor-binding domain | SDGGGPQDKAR | SDGGGPLDI/TAR (90%) | SDGGGPLDTTR (86%) | [9] |
| Env | Immunosuppressive peptide | LQNRRGLDLLTAE  QGGI | LQNRRGLDLLTAEQ/KGGI (95%) | LQNRRGLDLLTAEQGGI (71%) | [10,11] |
| Env TM | Cytoplasmic domain, incorporation into and release of virions | IXXXYXXL | IXXXYXXL (100%) | IXXXYXXL (100%) | [12] |

Conserved amino acids that have been shown to be essential for protein function are underlined

a MPMV, a variant of SRV-3, is the prototype D-type primate retrovirus, and has been the subject of detailed studies

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