**Supplementary Data S1:** Example Serology Assays

(Accessed from source: <https://www.finddx.org/tools-and-resources/dxconnect/test-directories/>, site accessed on 25th May 2023)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | Continent | Type | Test | Regulatory Status |
| MPXV IgM/IgG Antibody Rapid Test  | Asia | MPX IgG; MPX IgM | Rapid diagnostic test (strip or cassette) | Regulatory Achieved |
| MPXV IgG/IgM Rapid Test Cassette | USA | MPX IgG; MPX IgM | Rapid diagnostic test (strip or cassette) | Regulatory Achieved |
| NG-Test MPXV | Europe | Other | Rapid diagnostic test (strip or cassette) | Research Use Only (RUO) |
| MPXV - LightMix Modular Assay | Europe | Unknown | NAT reagent kit  | Research Use Only (RUO) |
| MPXV by LAMP | Asia | MPX ATI gene | Cartridge-based processing | Validation |

**Supplementary Data S2**: Known MPXV / Host Exit Cell Protein Interactions.

Accessed from source (Readapted from <https://viralzone.expasy.org/>, site accessed on 23 February 2023)

ND= No Data

|  |  |  |
| --- | --- | --- |
| **MPXV Gene** | **Viral Protein** | **Host Protein** |
| M1R | Protein L | Unknown host receptor |
| E8L | Cell Binding Protein | Glycan chondroitin sulphate |
| H3L | Envelope protein | Heparan sulphate |
| A26 | ND | Binds laminin |
| A27 | ND | Binds heparan |
| D8 | ND | Binds chondroitin |
| H2 | ND | Binds heparan |

**Supplementary Data S3**: Known MPXV / Host Exit Cell Protein Interactions. Accessed from source (Readapted from https://viralzone.expasy.org/), site accessed on 23 February 2023)

ND= No Data

|  |  |  |
| --- | --- | --- |
| **MPXV Gene** | **Viral Protein** | **Host Protein** |
| A38R | Phosphoprotein F17 | [NCK1](https://www.uniprot.org/uniprot/P16333), ,[KLC1](https://www.uniprot.org/uniprot/Q07866), [ITSN1](https://www.uniprot.org/uniprot/Q15811) and EPS15 |
| C23R | Phosphoprotein F17 | [RICTOR](https://www.uniprot.org/uniprot/Q6R327) and [RPTOR](https://www.uniprot.org/uniprot/Q8N122) |
| C18L | Protein F12 | KLC2 |

**Supplementary Data S4**: Potential MPXV / Host Immunomodulatory Proteins. (Readapted from https://viralzone.expasy.org/), site accessed on 23 February 2023)

ND= No Data

|  |  |  |
| --- | --- | --- |
| **MPXV Gene** | **Viral Protein** | **Host Protein** |
| J3R | Chemokine binding | ND |
| J2L | TNFR (Crmb) | TNFR, LTA, CCL28, CXCL12/13/14, CCL25 |
| D3R | Viral EGF | EGFR |
| D9L | IFN evasion protein | SCF Complex |
| ND | IL–18 binding protein | IL–18 |
| D11L | Protein C6 | TANK, TBKBP1, STAT2 |
| P1L | Protein N1 | BAD and Bcl−2 antagonist BAX |
| C1L | IFN antagonist K1L | ND |
| C6R | Protein K | DDX3 |
| C7L | Protein F1 | BCL2L11, NLRP1, BAK |
| F3L | RNA BP E3 | ISG15, eIF2α /PKR/ZBP1 |
| H1L | Protein phosphatase H1 | STAT1 dephosphorylation |
| A37R | MHC modulating protein | ND |
| A41L | Protein A41 | CCL21, CCL25, CCL26, CCL28 |
| A47R | TLR/IL−1 like protein | MyD88, TRAM |
| B9R | sIFNγ B8 | IFN−γ |
| B13R | Protein B13 | IKKβ |
| B16R | sIFN–α / β receptor | IFN–α |

**Supplementary Data S5:** Clinical trials registered, awaiting, or in progress since 2017, expected completed 2026. Accessed/Adapted from source (Data as accessed on 23 February 2023 from www.clinicaltrials.gov) O=Observational, I=Investigational

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NCT Number | Abbreviated NCT Title | Cohort | Type | Country |
| NCT05522296 | Break–through infection following MPXV vaccine | 4638 | O | Peru |
| NCT05559099 | Tecovirimat for treatment of MPXV  | 450 | I | DRC |
| NCT05476744 | Viral clearance with MPXV | 75 | O | Spain |
| NCT05629299 | Pilot study to detect MPXV in sperm:  | 30 | I | France |
| NCT05562323 | Characterization of vaccine–responses against MPXV  | 100 | O | Various |
| NCT05627713 | Clinical and biological aspects of the MPXV disease | 330 | I | France |
| NCT05443867 | Asymptomatic shedding: Evaluation  | 140 | O | Belgium |
| NCT05534984 | Study of tecovirimat for human MPXV  | 530 | I | USA |
| NCT05534165 | Tecovirimat in patients with MPXV | 120 | I | Canada |
| NCT05651581 | Efficacy and acceptability of a MPXV curriculum  | 150 | I | USA |
| NCT05543577 | Assessing the preparedness and knowledge of pharmacists  | 380 | O | Egypt |
| NCT05567939 | Clinical, virological, and immunological study.  | 300 | O | Holland |
| NCT05438953 | MPXV infection | 300 | I | France |
| NCT02977715 | IMVAMUNE® Smallpox vaccine in adult healthcare  | 1600 | I | DRC |
| NCT05058898 | A one health study of MPXV human infection | 280 | O | CAR |
| NCT05512949 | Evaluating immunogenicity of MVA–BN dose reduction | 229 | I | USA |
| NCT05597735 | Assessment of the efficacy and safety of Tecovirimat  | 150 | I | Brazil |
| NCT03745131 | Cohort study of healthcare workers receiving Imvanex® | 120 | O | UK |
| NCT05734508 | Safety profile of MVA–BN Vaccines in DRC | 500 | I | DRC |
| NCT05654883 | New York City observational study of MPXV immunity | 300 | O | USA |