Supplementary Materials:

**Table S1. –** List of selected samples in the study.

| **#** | **FU** | **ID** | **CD** | **Serotype** | **Sample** |
| --- | --- | --- | --- | --- | --- |
| 1 | TO | OR609396 | 28/10/2017 | Dengue 2 | Serum |
| 2 | RO | OR609397 | 26/07/2019 | Dengue 2 | Serum |
| 3 | RO | OR609398 | 11/11/2019 | Dengue 2 | Serum |
| 4 | RO | OR609399 | 09/12/2019 | Dengue 2 | Serum |
| 5 | RO | OR609400 | 10/12/2019 | Dengue 2 | Serum |
| 6 | RO | OR609411 | 26/01/2020 | Dengue 2 | Serum |
| 7 | RO | OR609404 | 07/02/2020 | Dengue 2 | Serum |
| 8 | RO | OR609405 | 17/01/2020 | Dengue 2 | Serum |
| 9 | RO | OR609406 | 29/01/2020 | Dengue 2 | Serum |
| 10 | RO | OR609407 | 06/02/2020 | Dengue 2 | Serum |
| 11 | RO | OR609408 | 31/01/2020 | Dengue 2 | Serum |
| 12 | RO | OR609412 | 30/01/2020 | Dengue 2 | Serum |
| 13 | RO | OR609403 | 07/02/2020 | Dengue 2 | Serum |
| 14 | RO | OR609410 | 18/02/2020 | Dengue 2 | Serum |
| 15 | RO | OR609413 | 10/02/2020 | Dengue 2 | Serum |
| 16 | RO | OR609414 | 12/02/2020 | Dengue 2 | Serum |
| 17 | RO | OR609415 | 10/02/2020 | Dengue 2 | Serum |
| 18 | RO | OR609417 | 10/02/2020 | Dengue 2 | Serum |
| 19 | RO | OR609409 | 29/01/2020 | Dengue 2 | Serum |
| 20 | RO | OR609416 | 07/01/2020 | Dengue 2 | Serum |
| 21 | AC | OR609401 | 25/01/2020 | Dengue 2 | Serum |
| 22 | AC | OR609402 | 09/01/2020 | Dengue 2 | Serum |
| 23 | AC | OR609421 | 15/01/2021 | Dengue 2 | Serum |
| 24 | AC | OR609418 | 11/01/2021 | Dengue 2 | Serum |
| 25 | AC | OR609419 | 20/01/2021 | Dengue 2 | Serum |
| 26 | AC | OR609420 | 15/01/2021 | Dengue 2 | Serum |
| 27 | AC | OR609422 | 25/01/2021 | Dengue 2 | Serum |
| 28 | AC | OQ511272 | 24/02/2021 | Dengue 2 | Serum |
| 29 | AC | OQ511275 | 26/02/2021 | Dengue 2 | Serum |
| 30 | AC | OQ511273 | 10/03/2021 | Dengue 2 | Serum |
| 31 | AC | OQ511271 | 01/02/2021 | Dengue 2 | Serum |
| 32 | AC | OQ511274 | 27/02/2021 | Dengue 2 | Serum |

**Table S2. -** List of sequences included in phylogenetic inference.

| **Access Number** | **Country** | **Collection Date** | **Genotype** | **Lineage** |
| --- | --- | --- | --- | --- |
| **OQ511273** | **Brazil** | **10-03-2021** | Cosmopolitan | 5 |
| **OQ511271** | **Brazil** | **01-02-2021** |
| **OQ511274** | **Brazil** | **27-02-2021** |
| **OQ511272** | **Brazil** | **24-02-2021** |
| **OQ511275** | **Brazil** | **26-02-2021** |
| **OR609420** | **Brazil** | **15-01-2021** |
| **OR609419** | **Brazil** | **20-01-2021** |
| **OR609422** | **Brazil** | **25-01-2021** |
| **OR609418** | **Brazil** | **11-01-2021** |
| **OR609421** | **Brazil** | **15-01-2021** |
| OM744143 | Brazil | 29-11-2021 |
| OM791800 | Peru | 2019 |
| OM791801 | Peru | 2019 |
| LC436672 | Bangladesh | 2017 |
| MN328061 | Bangladesh | 2019 |
| LC436673 | Bangladesh | 2017 |
| LC436674 | Bangladesh | 2017 |
| MW512387 | Singapore | 2013 |
| LC410191 | Thailand | 2017 |
| KU517847 | Philippines | 2015 |
| KX372564 | Australia | 2015 |
| KX452040 | Malaysia | 2014 |
| MK564480 | China | 2016 |
| MH110588 | China | 2017 |
| MW512491 | Singapore | 2019 |
| MK513444 | Singapore | 2015 |
| EU179857 | Brunei | 2005 |
| KC762669 | Indonesia | 2007 |
| HM488257 | Guam | 2001 |
| KX380830 | Singapore | 2013 |
| KX380819 | Singapore | 2012 |
| KX380809 | Singapore | 2012 | 4 |
| KY921904 | Singapore | 2014 |
| MW512379 | Singapore | 2012 |
| KX380836 | Singapore | 2013 |
| KU517846 | Indonesia | 2014 |
| MW512466 | Singapore | 2016 |
| AY858036 | Indonesia | 2004 |
| MK578532 | China | 2016 |
| MW512354 | Singapore | 2009 |
| KM279597 | Singapore | 2012 |
| JN851113 | Singapore | 2006 | 2 |
| KM279604 | Singapore | 2008 |
| KU509272 | Thailand | 2009 |
| KC762660 | Indonésia | 2007 |
| KX452015 | Malásia | 2014 |
| KC762678 | Indonésia | 2010 |
| MW512414 | Singapore | 2014 |
| KU517845 | Papua New Guinea | 2013 |
| MH985858 | Australia | 2016 |
| KC762658 | Indonesia | 2007 |
| EU081177 | Singapore | 2005 |
| EU081180 | Singapore | 2005 |
| JN851124 | Singapore | 2005 | - |
| KC762672 | Indonesia | 2008 | - |
| KC762680 | Indonesia | 2010 | - |
| JX470186 | China | 2010 | 3 |
| EU482640 | Vietnam | 2006 |
| EU179859 | Brunei | 2006 |
| MW512376 | Singapore | 2012 |
| KT187557 | China | 2014 |
| MG189962 | Tanzania | 2014 |
| AY858035 | Indonesia | 2004 |
| KU365902 | Taiwan | 2015 |
| MW512450 | Singapore | 2016 |
| MF004385 | France | 2014 |
| AY037116 | Australia | 1993 |
| KC964094 | China | 1993 |
| EF051521 | China | 2001 | - |
| KU509274 | Philippines | 2010 | - |
| KF744397 | Philippines | 2001 | 1 |
| MW512489 | Singapore | 2018 |
| DQ645553 | Taiwan | 2002 |
| DQ645554 | Taiwan | 2002 |
| KF744398 | Filipinas | 2005 |
| JN851131 | Singapore | 2005 |
| MW512409 | Singapore | 2013 |
| AB189122 | Indonesia | 1998 |
| GQ398264 | Indonesia | 1976 |
| EU056810 | Burkina Faso | 1983 |
| GU131843 | Burkina Faso | 1986 | - |
| GQ398262 | Indonesia | 1976 | - |
| KJ830750 | Saudi Arabia | 2014 | - |
| KJ010186 | Pakistan | 2013 | - |
| GQ252677 | Sri Lanka | 2003 | Indian Sub-continent |
| MF156247 | China | 2015 |
| MH110592 | China | 2017 |
| MH822948 | India | 2012 |
| JQ955623 | India | 2009 |
| MW512372 | Singapore | 2012 |
| MW512490 | Singapore | 2019 |
| MG779194 | Kenya | 2017 |
| KY672948 | China | 2013 |
| KY849763 | Laos | 2010 |
| DQ181797 | Thailand | 2001 | Asian I | - |
| GU131897 | Camboja | 2007 | - |
| FM210211 | Vietnam | 2003 | - |
| DQ181798 | Thailand | 1999 | - |
| GQ868545 | Thailand | 1996 | - |
| DQ181802 | Thailand | 1988 | - |
| DQ181805 | Thailand | 1979 | - |
| AJ487271 | Thailand | 1974 | - |
| NC\_001474 | Thailand | 1964 | - |
| HQ891023 | Taiwan | 2008 | - |
| HQ891024 | Taiwan | 2008 | - |
| AF204177 | China | 1989 | Asian II | - |
| AF038403 | Papua New Guinea | 1944 | - |
| FJ906959 | Papua New Guinea | 2008 | - |
| KF704358 | Cuba | 1981 | - |
| KF744400 | Philippines | 2000 | - |
| KF744407 | Philippines | 1996 | - |
| KJ734727 | Taiwan | 2014 | - |
| EU482600 | Nicaragua | 2005 | - |
| **OR609399** | **Brazil** | **09-12-2019** | - |
| **OR609415** | **Brazil** | **10-02-2020** | Asian-American | - |
| **OR609400** | **Brazil** | **10-12-2019** | - |
| **OR609413** | **Brazil** | **10-02-2020** | - |
| **OR609416** | **Brazil** | **10-02-2020** | - |
| **OR609406** | **Brazil** | **29-01-2020** | - |
| **OR609410** | **Brazil** | **18-02-2020** | - |
| **OR609414** | **Brazil** | **12-02-2020** | - |
| **OR609403** | **Brazil** | **07-02-2020** | - |
| **OR609401** | **Brazil** | **25-01-2020** | - |
| **OR609402** | **Brazil** | **09-01-2020** | - |
| **OR609409** | **Brazil** | **29-01-2020** | - |
| **OR609398** | **Brazil** | **11-11-2019** | - |
| **OR609405** | **Brazil** | **17-01-2020** | - |
| **OR609407** | **Brazil** | **06-02-2020** | - |
| **OR609417** | **Brazil** | **10-02-2020** | - |
| **OR609397** | **Brazil** | **26-07-2019** | - |
| **OR609408** | **Brazil** | **31-01-2020** | - |
| **OR609412** | **Brazil** | **30-01-2020** | - |
| **OR609411** | **Brazil** | **26-01-2020** | - |
| **OR609404** | **Brazil** | **07-02-2020** | - |
| **OR609396** | **Brazil** | **28-10-2017** | - |
| GQ199868 | Nicaragua | 2007 | - |
| FJ898461 | Belize | 2002 | - |
| AY702036 | Cuba | 1997 | - |
| EU687217 | Puerto Rico | 2005 | - |
| GQ868596 | Venezuela | 1991 | - |
| JX669488 | Brasil | 2002 | - |
| GQ868540 | Venezuela | 1990 | - |
| EU569704 | Puerto Rico | 1986 | - |
| GQ398290 | Puerto Rico | 1994 | - |
| JN819418 | Vietnam | 1988 | - |
| AF119661 | China | 1985 | - |
| DQ181801 | Thailand | 1990 | - |
| AF100469 | México | 1992 | - |
| GQ868589 | México | 1983 | - |
| EU056811 | Peru | 1995 | American | - |
| GQ868592 | Colombia | 1986 | - |
| HM582107 | American Samoa | 1972 | - |
| HM582110 | French Polynesia | 1973 | - |
| HM582117 | Tonga | 1974 | - |
| EU056812 | Puerto Rico | 1977 | - |
| GQ398257 | Indonesia | 1977 | - |

A black background with a black square

Description automatically generated with medium confidence

**Figure S1. -** Representation of the positive phylogenetic signal for the set of studied sequences.