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# East African Origin of SAT2 Topotype XIV Foot-and-Mouth Disease Virus Outbreaks, Western Asia, 2023

## Appendix

**Appendix Table 1.** Details of the 49 FMDV isolates collected from SAT2/XIV outbreaks used for whole-genome sequence analysis

Virus designation	Country	Location	Species	Date collected	GenBank accession no.
ETH/2/91	Ethiopia	Stella Farm, Addis Ababa	Cattle	1991	OQ557396
ETH/2/2022	Ethiopia	Sodo, Wolaita, SNNPR	Cattle	29/03/2022	OQ557397
ETH/9/2022	Ethiopia	Gibe, Hadiya, SNNPR	Cattle	28/05/2022	PQ587563
ETH/11/2022	Ethiopia	Dedo, Jima, Oromia	Cattle	31/05/2022	PQ587564
ETH/17/2022	Ethiopia	Goro, Southwest Shoa, Oromia	Cattle	31/05/2022	PQ587565
ETH/28/2022	Ethiopia	Degam, North Shoa, Oromia	Cattle	14/09/2022	PQ587566
ETH/31/2022	Ethiopia	Degam, North Shoa, Oromia	Cattle	14/09/2022	PQ587567
ETH/43/2022	Ethiopia	Arero, Borana, Oromia	Cattle	05/10/2022	PQ587568
ETH/48/2022	Ethiopia	Gidu kombolcha, East Shoa, Oromia	Cattle	22/10/2022	PQ587569
ETH/64/2022	Ethiopia	Alemtena, East Shoa, Oromia	Cattle	22/10/2022	PQ587570
ETH/77/2022	Ethiopia	Negele Arsi, East Shoa, Oromia	Cattle	24/10/2022	PQ587571
ETH/90/2022	Ethiopia	Seden Sodo, Southwest Shoa, Oromia	Cattle	14/11/2022	PQ587572
ETH/105/2022	Ethiopia	Sebeta, Southwest Shoa, Oromia	Cattle	08/12/2022	PQ587573
ETH/1/2023	Ethiopia	Digaluena-tijo, Arsi, Oromia	Cattle	01/01/2023	PQ587574
BAR/2/2022	Bahrain	-	Cattle	23/11/2022	PP432642
BAR/5/2022	Bahrain	-	Cattle	24/11/2022	PP432643
BAR/7/2022	Bahrain	-	Cattle	24/11/2022	PP432644
IRQ/1/2022	Iraq	Al-Fudhailia, Baghdad Governorate	Water buffalo	06/12/2022	PP432645
IRQ/2/2022	Iraq	Al-Fudhailia, Baghdad Governorate	Water buffalo	18/12/2022	PP432646
IRQ/3/2023	Iraq	Humidat, Ninevah Governorate	Cattle	18/01/2023	PP432647
IRQ/5/2023	Iraq	Daqooq, Kirkuk Governorate	Cattle	26/01/2023	PP432648
IRQ/6/2023	Iraq	Al-Mahawil, Babil Governorate	Cattle	29/01/2023	PP432649
IRQ/9/2023	Iraq	Al-Mishkhab, Najaf Governorate	Water buffalo	02/02/2023	PP432650
JOR/1/2023	Jordan	Dulil, Zarqa City, Zarqa Governorate	Cattle	08/01/2023	PP432651
JOR/6/2023	Jordan	Zarqa City, Zarqa Governorate	Cattle	15/01/2023	PP432652
JOR/11/2023	Jordan	Dulil, Zarqa City, Zarqa Governorate	Cattle	18/01/2023	PP432653
JOR/20/2023	Jordan	Halabat, Zarqa City, Zarqa Governorate	Cattle	23/01/2023	PP432654
JOR/23/2023	Jordan	Khaldieh, Mafraq City, Mafraq Governorate	Cattle	25/01/2023	PP432655
JOR/26/2023	Jordan	Halabat, Zarqa City, Zarqa Governorate	Cattle	07/02/2023	PP432656
TUR/4/2023	Turkey	Mehmetakifer soy, Merkez, Agri	Cattle	11/03/2023	PP432657
TUR/5/2023	Turkey	Erdal, Tutak, Agri	Cattle	11/03/2023	PP432658
TUR/6/2023	Turkey	Seyhali, Polatli, Ankara	Cattle	17/03/2023	PP432659
TUR/7/2023	Turkey	Degim, Merkez, Cankiri	Cattle	17/03/2023	PP432660
TUR/8/2023	Turkey	Mesudiye, Germencik, Aydin	Cattle	21/03/2023	PP432661
TUR/9/2023	Turkey	Yagan, Koprukoy, Erzurum	Cattle	24/03/2023	PP432662
TUR/10/2023	Turkey	Yukarikarahalit, Tutak, Agri	Cattle	24/03/2023	PP432663
TUR/11/2023	Turkey	Cakiroren, Karatas, Adana	Cattle	17/04/2023	PP432664
TUR/12/2023	Turkey	Cakiroren, Karatas, Adana	Cattle	17/04/2023	PP432665

Virus designation	Country	Location	Species	Date collected	GenBank accession no.
TUR/13/2023	Turkey	Avsaroren, Kangal, Sivas	Cattle	04/05/2023	PP432666
TUR/14/2023	Turkey	Enidogan, Gemerek, Sivas	Cattle	18/05/2023	PP432667
TUR/15/2023	Turkey	Guneykaya, Yildizeli, Sivas	Cattle	26/05/2023	PP432668
TUR/16/2023	Turkey	Turkmen, Eregli, Konya	Cattle	30/05/2023	PP432669
TUR/17/2023	Turkey	Kurkcü, Sarıkaya, Yozgat	Cattle	08/06/2023	PP432670
TUR/18/2023	Turkey	Baharozu, Ulas, Sivas	Cattle	14/06/2023	PP432671
TUR/19/2023	Turkey	Baharozu, Ulas, Sivas	Cattle	14/06/2023	PP432672
TUR/20/2023	Turkey	Buyuksutluce, Merkez, Ardahan	Cattle	26/06/2023	PP432673
OMN/23Z1434/2023*	Oman	Nizwa, Ad Dakhiliyah	Goat	10/01/2023	PP587765
OMN/23Z1436/2023*	Oman	Salalah, Dhofar	Cattle	08/02/2023	PP587766
OMN/23Z1437/2023*	Oman	Salalah, Dhofar	Cattle	08/02/2023	PP587767
OMN/23Z1438/2023*	Oman	Salalah, Dhofar	Cattle	08/02/2023	PP587768
OMN/23Z1439/2023*	Oman	Salalah, Dhofar	Cattle	08/02/2023	PP587769

\*Non-World Reference Laboratory for Foot-and-Mouth Disease (Pirbright, UK) reference number.

**Appendix Table 2.** Vaccine matching data resulting from 2D-VNT testing of representative SAT2/XIV FMDV isolates using bovine reference sera generated from two SAT2 vaccine strains produced by Boehringer Ingelheim.  $r_1$  values express antigenic relationship, as defined by the reactivity of the reference serum against the heterologous (field) strain divided by the reactivity of the serum against the homologous (vaccine) strain.  $r_1$  values of >0.30 (green cells) denote a field virus that is antigenically matched to the FMD vaccine.

Virus designation	FMD vaccine strain			
	SAT2 Eritrea 98		SAT2 Zim 83	
	Heterologous titer ( $\log_{10}$ )	$r_1$	Heterologous titer ( $\log_{10}$ )	$r_1$
ETH/2/2022	1.62	0.81	2.17	0.54
IRQ/2/2022	1.75	0.73	2.04	0.38
IRQ/5/2023	1.61	0.53	2.33	0.74
IRQ/9/2023	1.51	0.42	1.95	0.31
JOR/11/2023	1.69	0.58	1.74	0.20
JOR/20/2023	1.85	0.83	1.81	0.24
JOR/26/2023	1.86	0.66	1.94	0.32
BAR/2/2022	1.50	0.40	1.85	0.39
BAR/7/2022	1.62	0.53	1.99	0.53
TUR/4/2023	1.68	1.00	1.95	0.31
TUR/17/2023	1.52	0.72	1.86	0.25