

Supplementary Table. Molecular markers/motifs in all gene of the A/India/NIV1519/2024/(H9N2) were catalogued from the GISAID FluSurver module^{25,26}

Query	Most Significant (Red)	Significant mutations (Orange)	Phenotypes for the most Significant mutations	Mutations observed in Reference sequence
HA	A150S	M107T;S121T;S143T;S145T;N167G;P170N;T195S;N218D;Q235I;V327I	Increased binding and transmissibility, virulence and host specificity Shift	HA A/Chicken/Hong Kong/G9/1997(H9N2)
MP	S31N	V7I;E16D;V33I;L43F, T139N	Increased resistance to amantadine and rimantadine	M1 A/Quail/Hong Kong/G1/1997(H9N2) M2 A/Duck/Hong Kong/24/1976(H4N2)
NA	-	P43S;A48S;N68G;T70I;K185V;R197K;R247M;V261I;N356D;I390T;I400N;S404Y		NA A/Quail/Hong Kong/G1/1997 (H9N2)
NP	-	I109V;R214K		NP A/Duck/HongKong/24/1976 (H4N2)
NS	-	F103V;P212S;R220W;E227K;S228P;K234Q		NS1 A/Chicken/BCFAV8//2014 (H5N2)
NS	-	I12T;Q20R		NS2 A/Duck/Guangdong/E1/2012 (H10N8)
PA	-	A337T		PA A/Herring gull/New Jersey/780/1986 (H16N3)
PB1	-	-		-
PB2	-	T105V;T676A		PB2 A/Mallard/Astrakhan/263/1982 (H14N5)