Supplementary table 1 Primer sets used for amplification and sequencing of the full-length M genes with corresponding PCR procedure

Name	Oligonucleotide sequence (5'-3')	Polarity
HPIV1 2694	AGAACAACCACAACCACAG	+
HPIV1 5892	CAGTTCCCTTAACCTGTTCAGTG	-
HPIV1 3571	CCAGCAATCAAAATCAATATC	+
HPIV1 4868	GGCTGGGCTTTTTGAGACTCT	-
HPIV2 M1	AGAAGGCTGGACATGATA	+
HPIV2 M2	TCTGCATTGTAGGATTTCA	-
HPIV2 M3	AGACCTATCCTTAAGTTCA	+
HPIV2 M4	TGCATACTATCATTGGATG	-
HPIV3 3436	GAGCAGTACAATGAGATCACTAG	+
HPIV3 5922	AAAGGGAGTCTGACTTGGAGAG	-
HPIV3 3448	GAGATCACTAGTTGCAGTCA	+
HPIV3 4903	CAGGTATGACTRCTGACRGTTG	-
HMPV M1	CGARAGCACAAGYGGTGAATC	+
HMPV M2	GCTTATTGCAGCTTCAACAGT	-
HMPV M3	GAGYTCRGCCAAATCAGTT	+
HMPV M4	ATCAYCACTTTCCAAGACAT	-
HRSV M1	GACAATGATCTATCACTTGA	+
HRSV M2	TTCACATARAGCAATGATSTCATG	-
HRSV M3	GCATATGATGTAACYACACC	+
HRSV M4	GGCCARAATTTGCTTGWGAAT	-

The first PCR for the HPIV1 M gene (primers HPIV1 2694/HPIV1 5892) was carried out by 10 cycles at 94 °C for 30 s, followed by 51 °C for 30s and a final extension at 68 °C for 3 min and 40s, followed with additional 30 cycles at 94 °C for 30 s, 54 °C for 30s and 68 °C for 3 min and 40s. For nested PCR (primers HPIV1 3571/HPIV1 4868), 5 μL of the first PCR mixture was added to a 50 μL reaction mixture. PCR conditions for the second amplification were: 94 °C for 3 min, 40 cycles of 94 °C/30 s, 55 °C/30 s, 68 °C/1 min 30s.

The first PCR for the HPIV3 M gene (primers HPIV3 3436/HPIV3 5922) was carried out by 10 cycles at 94 °C for 30 s, 52 °C for 30s and 68 °C for 2 min 30s, followed by additional

30 cycles of 94 °C for 30 s, 54 °C for 30s and 68 °C for 2 min 30s. For nested PCR (primers HPIV3 3448/HPIV3 4903), 5 µL of the first PCR mixture was added to a 50 µL reaction mixture. PCR conditions for the second amplification were: 94°C for 3 min, 40 cycles of 94 °C/30 s, 55 °C/30 s, 68 °C/1 min 30s.

The PCR for the HPIV2 M gene was carried out in two fragments with primers pairs HPIV2 M1/M2 and M3/M4, respectively, each with 40 cycles at 94 °C for 30s, 50 °C for 20s and 68 °C for 2 min.

The PCR for the HMPV M gene was carried out in two fragments with primers pairs HMPV M1/M2 and M3/M4, respectively, each with 40 cycles at 95 °C for 30s, 50 °C for 30s and 68 °C for 2 min.

The PCR for the HMPV M gene was carried out in two fragments with primers pairs HRSV M1/M2 and M3/M4, respectively, each with 35 cycles at 95 °C for 30s, 53 °C (for primers M1/M2) or 53 °C (primers M3/M4) for 30s and 68 °C for 1 min.

For all reactions a final extension at 68°C for 10 min was included. Reaction mixtures contained 1×One*Taq*® Standard Reaction Buffer (New England BioLabs, Ipswich, Massachusetts, USA), 10 mM dNTP, 0.25 mM $MgCl_2$, 0.25 mM of each primer, and 1.25 U of *OneTaq* DNA polymerase (New England BioLabs, Ipswich, Massachusetts, USA).