

Table S2. Distribution of human RVA genotype constellations detected from 1976 to 2006 across 27 countries worldwide

Supplementary 2a. Typical human RVA genotype constellations (n = 735)

| | | | | Genotype constellation | | | | | | | | | | |
|-----------|------|---------------------------------|-------------|------------------------|------|-----|-----|-----|------|------|------|------|------|------|
| Genogroup | | Number of human RVA strains (%) | | VP7 | VP4 | VP1 | VP2 | VP3 | NSP1 | NSP2 | NSP3 | NSP4 | NSP5 | NSP6 |
| 1 | Wa | 614 (83.8%) | 483 (65.7%) | G1 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 2 | | | 6 (0.8%) | G1 | P[6] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 3 | | | 38 (5.2%) | G3 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 4 | | | 2 (0.3%) | G3 | P[6] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 5 | | | 39 (5.3%) | G4 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 6 | | | 2 (0.3%) | G4 | P[6] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 7 | | | 12 (1.6%) | G12 | P[6] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 8 | | | 4 (0.5%) | G12 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 9 | | | 28 (3.8%) | G9 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 10 | DS-1 | 114 (15.3%) | 75 (10%) | G2 | P[4] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |
| 11 | | | 4 (0.5%) | G2 | P[6] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |
| 12 | | | 20 (2.7%) | G8 | P[4] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |
| 13 | | | 15 (2.0%) | G8 | P[6] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |
| 14 | AU-1 | 7 (1%) | 7 (1.0%) | G3 | P[9] | I3 | R3 | C3 | M3 | A3 | N3 | T3 | E3 | H3 |
| Total | | 735 | | | | | | | | | | | | |

Supplementary 2b. Unusual human RVA genotype constellations (n = 119)

| 58 distinct genotype constellations | Number of human RVAs | Origin of formation | Frequency of appearance | Genotype constellation | | | | | | | | | | |
|---|----------------------------|--------------------------------|--|------------------------|------|-----|-----|-----|------|------|------|------|------|------|
| | | | | VP7 | VP4 | VP1 | VP2 | VP3 | NSP1 | NSP2 | NSP3 | NSP4 | NSP5 | NSP6 |
| 1 | 1 | Inter-genogroup reassortant | Sporadic | G1 | P[4] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |
| 2 | 1 | | Sporadic | G1 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T2 | E1 | H1 |
| 3 | 1 | | Sporadic | G1 | P[8] | I1 | R1 | C1 | M1 | A2 | N1 | T1 | E1 | H1 |
| 4 | 3 | | Sporadic | G1 | P[8] | I1 | R1 | C1 | M2 | A1 | N1 | T2 | E1 | H1 |
| 5 | 1 | | Sporadic | G1 | P[9] | I1 | R1 | C1 | M2 | A1 | N2 | T2 | E1 | H1 |
| 6 | 1 | | Sporadic | G1 | P[9] | I1 | R1 | C1 | M3 | A1 | N1 | T2 | E1 | H1 |
| 7 | 1 | | Sporadic | G1 | P[9] | I1 | R3 | C3 | M3 | A1 | N1 | T3 | E3 | H3 |
| 8 | 1 | | Sporadic | G1 | P[6] | I1 | R1 | C1 | M1 | A1 | N1 | T2 | E1 | H1 |
| 9 | 1 | | Sporadic | G12 | P[4] | I2 | R2 | C2 | M1 | A2 | N1 | T2 | E2 | H1 |
| 10 | 1 | | Sporadic | G12 | P[6] | I1 | R1 | C1 | M1 | A1 | N1 | T2 | E1 | H1 |
| 11 | 1 | | Sporadic | G12 | P[6] | I2 | R2 | C2 | M2 | A2 | N1 | T2 | E6 | H2 |
| 12 | 1 | | Sporadic | G12 | P[6] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E1 | H2 |
| 13 | 1 | | Sporadic | G12 | P[6] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E6 | H2 |
| 14 | 14 | | Repeated circulation over a period of 6 years in Japan | G2 | P[4] | I2 | R2 | C2 | M2 | A2 | N1 | T2 | E2 | H2 |
| 15 | 1 | | Sporadic | G2 | P[6] | I2 | R2 | C2 | M2 | A2 | N1 | T2 | E2 | H2 |
| 16 | 1 | | Sporadic | G3 | P[3] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 17 | 1 | | Sporadic | G3 | P[6] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |

[illegible]

Supplementary 2c. Mixed genotype constellations (n = 25)

| | | Genotype constellation | | | | | | | | | | |
|-------|----------------------|------------------------|-----------|-------|----------|-------|-------|-------|-------|-------|-------|-------|
| | Number of human RVAs | VP7 | VP4 | VP1 | VP2 | VP3 | NSP1 | NSP2 | NSP3 | NSP4 | NSP5 | NSP6 |
| 1 | 1 | G9 | P[9] | I3 | R3 | C3 | M3 | A3 | N1 | T1/T3 | E3 | H3 |
| 2 | 1 | G1 | P[4],P[8] | I1 | R2 | C2 | M1 | A2 | N1/N2 | T2 | E2 | H2 |
| 3 | 1 | G1,G10 | P[8] | I2 | R2 | C2 | M2 | A1 | N1 | T1 | E2 | H3 |
| 4 | 1 | G12 | P[8] | I2 | R2 | C1,C2 | M1 | A2 | N2 | T2 | E2 | H2 |
| 5 | 4 | G1,G3 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 6 | 1 | G2 | P[4] | I2 | R2,R1 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |
| 7 | 1 | G2,G9 | P[4] | I2 | R1,R2,R1 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |
| 8 | 1 | G1,G9 | P[8] | I1,I1 | R1 | C1,C1 | M1,M1 | A1,A1 | N1,N1 | T1,T1 | E1,E1 | H1,H1 |
| 9 | 3 | G2,G9 | P[4] | I2 | R2 | C2 | M2 | A2 | N2 | T2 | E2 | H2 |
| 10 | 1 | G4 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1,E1 | H1 |
| 11 | 1 | G1,G4 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 12 | 1 | G1,G4 | P[4] | I1/I2 | R1/R2 | C2 | M1 | A1 | N1/N2 | T2 | E2 | H2 |
| 13 | 1 | G1,G9 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 14 | 1 | G12 | P[8],P[8] | I3 | R3 | C3 | M3,M1 | A3 | N1 | T3 | E3 | H6 |
| 15 | 1 | G9,G4 | P[8] | I1,I1 | R1 | C1 | M1,M1 | A1,A1 | N1,N1 | T1,T1 | E1 | H1 |
| 16 | 1 | G1 | P[8] | I1 | R1,R1 | C1 | M1,M1 | A1 | N1 | T1 | E1 | H1 |
| 17 | 1 | G4/G1 | P[8] | I1 | R1 | C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| 18 | 1 | G1 | P[8] | I1 | R1,R1 | C1 | M1 | A1 | N1 | T1,T1 | E1 | H1 |
| 19 | 1 | G9,G12 | P[6] | I1 | R1 | C1 | M1 | A1,A1 | N1 | T1 | E1 | H1 |
| 20 | 1 | G12 | P[8] | I1 | R1 | C1,C1 | M1 | A1 | N1 | T1 | E1 | H1 |
| Total | 25 | | | | | | | | | | | |