

Amino acid distances for complete L and Z genes of the new world arenaviruses*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | | |
|-------------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 ALL_CLHP2472 | — | 56 | 43 | 44 | 55 | 56 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 56 | 56 | 56 | 56 | 56 | n/a | 55 | 55 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 56 | 54 | 36 | n/a | n/a | n/a | n/a | 34 | 56 | 55 | 42 | 43 | |
| 2 AMA_BeAn70563 | 54 | — | 56 | 56 | 39 | 31 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 28 | 39 | 39 | 39 | 39 | n/a | 38 | 38 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 38 | 49 | 55 | n/a | n/a | n/a | n/a | 55 | 39 | 40 | 56 | 56 | | |
| 3 BCN_A0060209 | 31 | 54 | — | 2 | 56 | 55 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 55 | 56 | 56 | 56 | 56 | n/a | 56 | 55 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 56 | 55 | 45 | n/a | n/a | n/a | n/a | 43 | 56 | 57 | 28 | 27 | | |
| 4 BCN_AVA0070039 | 31 | 54 | 0 | — | 56 | 55 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 56 | 56 | 56 | 56 | 56 | n/a | 56 | 55 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 55 | 54 | 46 | n/a | n/a | n/a | n/a | 43 | 55 | 57 | 28 | 27 | | |
| 5 CHA_810419 | 59 | 41 | 55 | 55 | — | 41 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 40 | 38 | 38 | 38 | 38 | n/a | 37 | 38 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 38 | 49 | 55 | n/a | n/a | n/a | n/a | 55 | 26 | 38 | 56 | 56 | | |
| 6 CPX_BeAn119303 | 58 | 29 | 56 | 56 | 39 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 31 | 40 | 40 | 40 | 40 | n/a | 39 | 39 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 39 | 50 | 56 | n/a | n/a | n/a | n/a | 56 | 41 | 40 | 56 | 55 | | |
| 7 GTO_VHF1608 | 55 | 32 | 52 | 52 | 38 | 28 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 8 GTO_AV97021119 | 55 | 28 | 52 | 52 | 35 | 26 | 9 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 9 GTO_VHF1750 | 56 | 32 | 53 | 53 | 39 | 26 | 6 | 7 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 10 GTO_VHF3990 | 54 | 31 | 52 | 52 | 36 | 29 | 11 | 8 | 9 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 11 GTO_S56764 | 55 | 28 | 52 | 52 | 35 | 26 | 8 | 1 | 6 | 7 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 12 GTO_CVH961104 | 55 | 29 | 52 | 52 | 36 | 27 | 6 | 4 | 5 | 5 | 2 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 13 GTO_CVH950801 | 55 | 31 | 52 | 52 | 36 | 28 | 7 | 5 | 6 | 6 | 4 | 1 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 14 GTO_CVH960102 | 55 | 31 | 52 | 52 | 36 | 28 | 7 | 5 | 6 | 6 | 4 | 1 | 0 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 15 GTO_CVH960103 | 55 | 32 | 52 | 52 | 38 | 28 | 7 | 6 | 6 | 7 | 5 | 2 | 1 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 16 GTO_CVH960302 | 55 | 32 | 52 | 52 | 38 | 28 | 7 | 6 | 6 | 7 | 5 | 2 | 1 | 1 | 0 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 17 GTO_CVH960101 | 55 | 31 | 52 | 52 | 36 | 28 | 7 | 5 | 6 | 6 | 4 | 1 | 0 | 0 | 1 | 1 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 18 GTO_INH95551 | 55 | 31 | 52 | 52 | 38 | 29 | 7 | 6 | 6 | 7 | 5 | 2 | 1 | 1 | 2 | 2 | 1 | — | 39 | 39 | 39 | 39 | 39 | n/a | 38 | 38 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 38 | 50 | 56 | n/a | n/a | n/a | n/a | 55 | 39 | 40 | 55 | 55 | | |
| 19 JUN_MC2 | 56 | 33 | 58 | 58 | 40 | 28 | 32 | 29 | 31 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 31 | 29 | — | 0 | 2 | 2 | 2 | n/a | 25 | 25 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 25 | 50 | 56 | n/a | n/a | n/a | n/a | 54 | 38 | 29 | 56 | 56 | | |
| 20 JUN_Rumero | 56 | 33 | 58 | 58 | 40 | 28 | 32 | 29 | 31 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 29 | 0 | — | 2 | 2 | 2 | 2 | n/a | 25 | 25 | n/a | n/a | n/a | n/a | n/a | n/a | 25 | 50 | 56 | n/a | n/a | n/a | n/a | 54 | 38 | 29 | 56 | 56 | | | |
| 21 JUN_Candid1 | 56 | 33 | 58 | 58 | 40 | 29 | 33 | 31 | 32 | 34 | 31 | 32 | 32 | 32 | 32 | 32 | 31 | 1 | 1 | — | 0 | 0 | n/a | 25 | 25 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 25 | 50 | 56 | n/a | n/a | n/a | n/a | 54 | 39 | 29 | 56 | 56 | | | |
| 22 JUN_XJ44 | 56 | 33 | 58 | 58 | 40 | 29 | 33 | 31 | 32 | 34 | 31 | 32 | 32 | 32 | 32 | 32 | 31 | 1 | 1 | 0 | — | 0 | n/a | 25 | 25 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 25 | 50 | 56 | n/a | n/a | n/a | n/a | 54 | 39 | 29 | 56 | 56 | | | |
| 23 JUN_XJ13 | 56 | 33 | 58 | 58 | 40 | 29 | 33 | 31 | 32 | 34 | 31 | 32 | 32 | 32 | 32 | 32 | 31 | 1 | 1 | 0 | 0 | — | n/a | 25 | 25 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 25 | 50 | 56 | n/a | n/a | n/a | n/a | 54 | 38 | 28 | 56 | 56 | | | |
| 24 LAT_MARU10924 | 56 | 49 | 56 | 56 | 46 | 48 | 48 | 49 | 49 | 48 | 49 | 48 | 48 | 48 | 48 | 48 | 48 | 49 | 49 | 49 | 49 | 49 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 25 MAC_Mallele | 54 | 31 | 56 | 56 | 36 | 29 | 34 | 31 | 33 | 32 | 31 | 32 | 32 | 32 | 32 | 32 | 33 | 20 | 20 | 20 | 20 | 20 | 49 | — | 5 | n/a | n/a | n/a | n/a | n/a | n/a | n/a | 4 | 49 | 56 | n/a | n/a | n/a | n/a | 55 | 37 | 28 | 55 | 56 | | | |
| 26 MAC_Chicava | 56 | 32 | 58 | 58 | 38 | 29 | 33 | 29 | 32 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 32 | 19 | 19 | 19 | 19 | 19 | 49 | 4 | — | n/a | n/a | n/a | n/a | n/a | n/a | 2 | 49 | 56 | n/a | n/a | n/a | n/a | 54 | 37 | 27 | 55 | 56 | | | | |
| 27 MAC_9430084 | 55 | 32 | 56 | 56 | 38 | 29 | 32 | 29 | 32 | 32 | 29 | 29 | 29 | 29 | 29 | 29 | 31 | 18 | 18 | 18 | 18 | 18 | 51 | 6 | 6 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 28 MAC_200002427 | 55 | 31 | 56 | 56 | 36 | 29 | 33 | 29 | 32 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 32 | 19 | 19 | 19 | 19 | 19 | 49 | 4 | 4 | 2 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 29 MAC_9301012 | 56 | 32 | 58 | 58 | 38 | 29 | 33 | 29 | 32 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 32 | 19 | 19 | 19 | 19 | 19 | 49 | 4 | 0 | 6 | 4 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 30 MAC_MARU216606 | 55 | 31 | 56 | 56 | 38 | 29 | 33 | 29 | 32 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 32 | 19 | 19 | 19 | 19 | 19 | 49 | 2 | 1 | 5 | 2 | 1 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 31 MAC_MARU222688 | 55 | 31 | 56 | 56 | 36 | 29 | 33 | 29 | 32 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 32 | 19 | 19 | 19 | 19 | 19 | 49 | 4 | 4 | 2 | 0 | 4 | 2 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 32 MAC_MARU249121 | 55 | 31 | 56 | 56 | 36 | 29 | 33 | 29 | 32 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 32 | 19 | 19 | 19 | 19 | 19 | 49 | 4 | 4 | 2 | 0 | 4 | 2 | 0 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 33 MAC_9530537 | 55 | 31 | 56 | 56 | 38 | 29 | 33 | 29 | 32 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 32 | 19 | 19 | 19 | 19 | 19 | 51 | 4 | 4 | 5 | 2 | 4 | 2 | 2 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | |
| 34 MAC_Carvalho | 55 | 31 | 56 | 56 | 38 | 29 | 33 | 29 | 32 | 33 | 29 | 31 | 31 | 31 | 31 | 31 | 32 | 19 | 19 | 19 | 19 | 19 | 49 | 2 | 1 | 5 | 2 | 1 | 0 | 2 | 2 | 2 | — | 49 | 56 | n/a | n/a | n/a | n/a | n/a | 55 | 37 | 27 | 55 | 56 | | |
| 35 OLI_3229 | 52 | 45 | 53 | 53 | 46 | 46 | 51 | 46 | 51 | 47 | 46 | 48 | 48 | 48 | 49 | 49 | 48 | 48 | 48 | 48 | 48 | 48 | 22 | 47 | 46 | 48 | 47 | 46 | 46 | 47 | 47 | 48 | 46 | — | 54 | n/a | n/a | n/a | n/a | 53 | 50 | 50 | 55 | 55 | | | |
| 36 PIC_AN3739 | 20 | 58 | 35 | 35 | 59 | 60 | 54 | 55 | 56 | 54 | 55 | 54 | 54 | 54 | 54 | 54 | 60 | 60 | 60 | 60 | 60 | 60 | 55 | 58 | 59 | 56 | 58 | 59 | 58 | 58 | 58 | 58 | 53 | — | n/a | n/a | n/a | n/a | 38 | 56 | 57 | 45 | 45 | | | | |
| 37 PIR_1743 | 16 | 53 | 32 | 32 | 59 | 55 | 53 | 53 | 54 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 56 | 56 | 56 | 56 | 56 | 59 | 54 | 55 | 54 | 54 | 55 | 54 | 54 | 54 | 54 | 54 | 26 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | | |
| 38 PIR_3945 | 22 | 53 | 32 | 32 | 58 | 54 | 53 | 53 | 54 | 53 | 53 | 53 | 53 | 53 | 53 | 53 | 56 | 56 | 56 | 56 | 56 | 58 | 53 | 54 | 53 | 53 | 54 | 53 | 53 | 53 | 53 | 53 | 26 | 8 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | | |
| 39 PIR_1645 | 16 | 54 | 33 | 33 | 59 | 54 | 54 | 54 | 53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Amino acid distances for complete nucleocapsid and glycoprotein genes of the new world arenaviruses*

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | |
|-------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1 ALL_Peru | — | 2 | 42 | 35 | 35 | 35 | 41 | 42 | 38 | 38 | 26 | 26 | 42 | 42 | 42 | 42 | 43 | 42 | 42 | n/a‡ | n/a | 41 | 40 | 41 | 41 | 40 | 41 | 41 | 41 | 41 | 41 | 41 | 41 | 28 | 23 | 23 | 30 | 43 | 40 | 42 | 37 | 36 | |
| 2 ALL_CLHP2098 | 2 | — | 30 | 35 | 35 | 35 | 41 | 42 | 38 | 38 | 25 | 25 | 42 | 42 | 42 | 42 | 43 | 42 | 42 | n/a | n/a | 41 | 40 | 41 | 41 | 40 | 41 | 41 | 41 | 41 | 41 | 28 | 23 | 23 | 30 | 43 | 40 | 42 | 36 | 36 | | | |
| 3 AMA_BeAn70563 | 59 | 59 | — | 45 | 45 | 44 | 27 | 17 | 46 | 46 | 42 | 42 | 14 | 14 | 25 | 26 | 27 | 25 | 26 | n/a | n/a | 37 | 25 | 26 | 26 | 25 | 26 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 37 | 42 | 42 | 43 | 27 | 29 | 49 | 44 | 44 |
| 4 BCN_A0060209 | 58 | 58 | 50 | — | 1 | 1 | 43 | 46 | 18 | 17 | 35 | 35 | 44 | 44 | 46 | 46 | 46 | 46 | 46 | n/a | n/a | 42 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 43 | 35 | 36 | 36 | 36 | 36 | 45 | 46 | 25 | 18 | 17 |
| 5 BCN_98470029 | 57 | 58 | 50 | 2 | — | 0 | 43 | 46 | 17 | 17 | 35 | 35 | 44 | 44 | 46 | 46 | 46 | 46 | 46 | n/a | n/a | 42 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 43 | 35 | 36 | 35 | 36 | 44 | 45 | 25 | 18 | 17 | | |
| 6 BCN_A0070039 | 58 | 58 | 50 | 2 | 2 | — | 43 | 46 | 17 | 17 | 34 | 34 | 44 | 44 | 45 | 45 | 46 | 45 | 45 | n/a | n/a | 42 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 43 | 34 | 36 | 35 | 36 | 44 | 45 | 24 | 18 | 17 | | |
| 7 CHA_810419 | 53 | 53 | 44 | 46 | 47 | 47 | — | 28 | 43 | 43 | 41 | 41 | 27 | 27 | 29 | 29 | 30 | 29 | 29 | n/a | n/a | 38 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 28 | 38 | 41 | 41 | 41 | 41 | 15 | 30 | 47 | 43 | 43 | |
| 8 CPX_BeAn119303 | 58 | 58 | 30 | 45 | 45 | 45 | 42 | — | 46 | 46 | 44 | 44 | 17 | 16 | 25 | 26 | 27 | 26 | 26 | n/a | n/a | 35 | 25 | 24 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 36 | 43 | 44 | 44 | 44 | 28 | 30 | 49 | 46 | 45 |
| 9 CTN_AVA0400135 | 55 | 55 | 52 | 34 | 34 | 34 | 45 | 47 | — | 2 | 35 | 35 | 44 | 44 | 45 | 46 | 46 | 46 | 46 | n/a | n/a | 42 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 44 | 38 | 36 | 36 | 37 | 44 | 46 | 22 | 13 | 13 | | |
| 10 CTN_AVA0400212 | 55 | 55 | 53 | 34 | 34 | 34 | 46 | 48 | 5 | — | 35 | 35 | 44 | 44 | 45 | 46 | 46 | 46 | 46 | n/a | n/a | 43 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 44 | 38 | 36 | 36 | 37 | 44 | 46 | 22 | 13 | 13 | | |
| 11 FLE_Pinheiro | 17 | 15 | 57 | 56 | 56 | 56 | 52 | 56 | 56 | 57 | — | 0 | 41 | 41 | 42 | 41 | 42 | 41 | 41 | n/a | n/a | 43 | 42 | 43 | 42 | 42 | 42 | 42 | 42 | 42 | 21 | 30 | 30 | 32 | 43 | 43 | 41 | 37 | 37 | | | | |
| 12 FLE_BeAn293022 | 17 | 15 | 57 | 56 | 56 | 56 | 52 | 56 | 56 | 57 | 0 | — | 41 | 41 | 42 | 41 | 42 | 41 | 41 | n/a | n/a | 43 | 42 | 43 | 42 | 42 | 42 | 42 | 42 | 42 | 21 | 30 | 30 | 32 | 43 | 43 | 41 | 37 | 37 | | | | |
| 13 GTO_CVH960101 | 58 | 58 | 29 | 47 | 48 | 48 | 41 | 30 | 51 | 51 | 55 | 55 | — | 0 | 24 | 25 | 26 | 25 | 25 | n/a | n/a | 36 | 23 | 23 | 23 | 23 | 23 | 23 | 22 | 23 | 23 | 37 | 41 | 42 | 42 | 41 | 29 | 28 | 48 | 44 | 44 | | |
| 14 GTO_INH95551 | 57 | 57 | 29 | 47 | 48 | 48 | 41 | 29 | 50 | 50 | 55 | 55 | 1 | — | 24 | 25 | 26 | 25 | 25 | n/a | n/a | 36 | 23 | 23 | 23 | 23 | 23 | 23 | 22 | 23 | 23 | 37 | 41 | 42 | 42 | 41 | 29 | 28 | 48 | 44 | 44 | | |
| 15 JUN_Rumero | 59 | 58 | 43 | 47 | 48 | 48 | 42 | 45 | 49 | 49 | 56 | 56 | 42 | 42 | — | 1 | 4 | 3 | 1 | n/a | n/a | 38 | 12 | 12 | 12 | 11 | 12 | 12 | 11 | 11 | 12 | 39 | 42 | 44 | 44 | 43 | 29 | 20 | 48 | 44 | 44 | | |
| 16 JUN_Candid1 | 59 | 59 | 44 | 47 | 48 | 49 | 43 | 46 | 49 | 49 | 57 | 57 | 42 | 43 | 2 | — | 4 | 3 | 0 | n/a | n/a | 39 | 12 | 12 | 12 | 11 | 12 | 12 | 11 | 11 | 12 | 39 | 42 | 43 | 43 | 43 | 29 | 20 | 48 | 44 | 44 | | |
| 17 JUN_MC2 | 59 | 58 | 43 | 47 | 48 | 48 | 42 | 45 | 49 | 49 | 56 | 56 | 42 | 43 | 1 | 2 | — | 3 | 4 | n/a | n/a | 39 | 13 | 14 | 14 | 13 | 13 | 14 | 13 | 13 | 40 | 42 | 45 | 44 | 43 | 30 | 21 | 49 | 46 | 46 | | | |
| 18 JUN_cbaIV4454 | 59 | 58 | 44 | 47 | 48 | 48 | 42 | 46 | 49 | 49 | 56 | 56 | 42 | 43 | 1 | 2 | 2 | — | 3 | n/a | n/a | 38 | 12 | 12 | 12 | 11 | 12 | 12 | 11 | 11 | 12 | 38 | 41 | 44 | 44 | 43 | 29 | 20 | 48 | 44 | 44 | | |
| 19 JUN_XJ13 | 59 | 58 | 43 | 47 | 48 | 48 | 42 | 45 | 48 | 49 | 56 | 56 | 42 | 42 | 1 | 1 | 1 | 2 | — | n/a | n/a | 39 | 12 | 12 | 12 | 11 | 12 | 12 | 11 | 11 | 12 | 39 | 42 | 43 | 43 | 43 | 29 | 20 | 48 | 44 | 44 | | |
| 20 JUN_XJ | 59 | 58 | 43 | 47 | 48 | 48 | 42 | 45 | 49 | 49 | 56 | 56 | 42 | 43 | 1 | 2 | 0 | 2 | 1 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 21 JUN_XJ44 | 59 | 58 | 43 | 47 | 48 | 48 | 42 | 45 | 49 | 49 | 56 | 56 | 42 | 43 | 1 | 2 | 0 | 2 | 1 | — | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a | n/a |
| 22 LAT_MARU10924 | 47 | 47 | 54 | 53 | 53 | 53 | 49 | 50 | 54 | 55 | 45 | 45 | 50 | 50 | 54 | 54 | 54 | 53 | 54 | 54 | — | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 19 | 41 | 42 | 42 | 40 | 37 | 39 | 45 | 42 | 41 | | | |
| 23 MAC_9530537 | 59 | 59 | 43 | 48 | 48 | 48 | 43 | 45 | 49 | 50 | 58 | 58 | 43 | 43 | 25 | 26 | 26 | 25 | 25 | 26 | 26 | 52 | — | 2 | 2 | 2 | 3 | 2 | 1 | 2 | 2 | 1 | 37 | 42 | 43 | 44 | 43 | 28 | 19 | 48 | 44 | 43 | |
| 24 MAC_Mallele | 58 | 58 | 44 | 49 | 49 | 49 | 43 | 45 | 48 | 49 | 56 | 56 | 43 | 43 | 26 | 27 | 26 | 26 | 26 | 26 | 26 | 52 | 5 | — | 2 | 1 | 2 | 2 | 1 | 2 | 1 | 1 | 38 | 43 | 43 | 44 | 43 | 28 | 19 | 48 | 43 | 43 | |
| 25 MAC_Chicava | 58 | 58 | 44 | 48 | 48 | 48 | 43 | 45 | 49 | 49 | 56 | 56 | 44 | 44 | 26 | 27 | 26 | 26 | 26 | 26 | 26 | 52 | 5 | 4 | — | 2 | 3 | 0 | 1 | 2 | 2 | 1 | 37 | 43 | 43 | 44 | 43 | 28 | 19 | 48 | 44 | 44 | |
| 26 MAC_9430084 | 58 | 58 | 43 | 48 | 48 | 48 | 43 | 45 | 49 | 50 | 56 | 56 | 43 | 44 | 26 | 27 | 26 | 25 | 26 | 26 | 26 | 52 | 3 | 3 | 3 | — | 1 | 1 | 1 | 1 | 1 | 38 | 43 | 43 | 44 | 43 | 27 | 19 | 48 | 44 | 44 | | |
| 27 MAC_200002427 | 58 | 58 | 44 | 48 | 48 | 48 | 44 | 45 | 48 | 49 | 56 | 56 | 43 | 44 | 26 | 27 | 26 | 26 | 26 | 26 | 26 | 52 | 5 | 4 | 4 | 3 | — | 2 | 2 | 1 | 1 | 2 | 38 | 43 | 43 | 44 | 43 | 28 | 20 | 48 | 44 | 44 | |
| 28 MAC_9301012 | 58 | 58 | 44 | 48 | 48 | 48 | 43 | 46 | 49 | 49 | 56 | 56 | 44 | 44 | 26 | 27 | 26 | 26 | 26 | 26 | 26 | 53 | 5 | 4 | 1 | 3 | 4 | — | 1 | 2 | 2 | 1 | 37 | 43 | 43 | 44 | 43 | 28 | 19 | 49 | 44 | 44 | |
| 29 MAC_MARU216606 | 58 | 58 | 43 | 48 | 48 | 48 | 43 | 45 | 49 | 49 | 57 | 57 | 43 | 44 | 26 | 27 | 26 | 26 | 26 | 26 | 26 | 52 | 4 | 4 | 1 | 2 | 4 | 2 | — | 1 | 1 | 0 | 38 | 43 | 43 | 44 | 43 | 28 | 19 | 48 | 44 | 44 | |
| 30 MAC_MARU222688 | 57 | 57 | 44 | 49 | 49 | 49 | 43 | 45 | 49 | 50 | 56 | 56 | 43 | 43 | 25 | 26 | 26 | 25 | 25 | 26 | 26 | 52 | 4 | 4 | 2 | 2 | 4 | 2 | 1 | — | 1 | 1 | 38 | 43 | 43 | 43 | 43 | 28 | 19 | 48 | 44 | 43 | |
| 31 MAC_MARU249121 | 58 | 58 | 43 | 48 | 48 | 48 | 43 | 45 | 48 | 49 | 57 | 57 | 43 | 43 | 26 | 27 | 26 | 25 | 26 | 26 | 26 | 52 | 3 | 3 | 3 | 0 | 3 | 3 | 2 | 2 | — | 1 | 37 | 43 | 43 | 44 | 43 | 28 | 19 | 48 | 44 | 43 | |
| 32 MAC_Carvalho | 58 | 58 | 43 | 48 | 48 | 48 | 43 | 45 | 49 | 49 | 57 | 57 | 43 | 44 | 26 | 27 | 26 | 26 | 26 | 26 | 26 | 52 | 4 | 4 | 1 | 2 | 4 | 2 | 0 | 1 | 2 | — | 38 | 43 | 43 | 44 | 43 | 28 | 19 | 48 | 44 | 44 | |
| 33 OLI_3229-1 | 47 | 48 | 55 | 53 | 53 | 53 | 49 | 51 | 53 | 53 | 47 | 47 | 50 | 49 | 52 | 53 | 53 | 52 | 52 | 53 | 53 | 19 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | — | 42 | 42 | 43 | 40 | 38 | 39 | 45 | 43 | 43 | | |
| 34 PAR_12056 | 17 | 16 | 58 | 59 | 59 | 59 | 53 | 57 | 56 | 57 | 17 | 17 | 55 | 55 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 48 | 58 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | 57 | |
| 35 PIC_Munchique | 17 | 17 | 58 | 57 | 57 | 57 | 55 | 55 | 57 | 58 | 20 | 20 | 57 | 56 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 47 | 58 | 57 | 58 | 58 | 57 | 57 | 58 | 58 | 47 | 18 | — | 3 | 28 | 42 | 43 | 39 | 35 | 35 | | | |
| 36 PIC | 19 | 19 | 58 | 58 | 58 | 58 | 57 | 56 | 58 | 58 | 22 | 22 | 58 | 57 | 59 | 59 | 59 | 59 | 59 | 59 | 59 | 48 | 59 | 58 | 58 | 58 | 58 | 58 | 58 | 58 | 49 | 19 | 5 | — | 29 | 41 | 42 | 39 | 36 | 36 | | | |
| 37 PIR_VAV488 | 17 | 17 | 59 | 58 | 57 | 57 | 55 | 56 | 57 | 57 | 22 | 22 | 56 | 55 | 57 | 58 | 57 | 57 | 57 | 57 | 57 | 46 | 58 | 57 | 58 | 58 | 57 | 58 | 58 | 48 | 20 | 17 | 19 | — | 43 | 42 | 41 | 37 | 36 | | | | |
| 38 SAB_SPH114202 | 54 | 55 | 46 | 46 | 46 | 46 | 22 | 42 | 46 | 47 | 54 | 54 | 43 | 43 | 44 | 45 | 44 | 45 | 44 | 44 | 44 | 50 | 43 | 43 | 43 | 43 | 44 | 44 | 43 | 43 | 43 | 50 | 56 | 57 | 58 | 57 | — | 32 | 47 | 44 | 43 | | |
| 39 TAC | 57 | 57 | 46 | 49 | 49 | 49 | 44 | 45 | 49 | 50 | 55 | 55 | 45 | 46 | 31 | 31 | 31 | 31 | 31 | 31 | 31 | 53 | 32 | 32 | 32 | 32 | 32 | 32 | 33 | 32 | 33 | 53 | 57 | 57 | 58 | 57 | 47 | — | 49 | 45 | 45 | | |
| 40 TAM_W10777 | 57 | 56 | 49 | 34 | 33 | 33 | 45 | 46 | 34 | 35 | 55 | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

Footnote for Supplemental Table

Genbank accession numbers for L amino acid sequences include: ALL (NC_010249), AMA (NC_010251), BCN (AY216503, NC_010255), CHA (EU260464), CPX (NC_010252), GTO (NC_005082), JUN (AY216507, AY619640, AY819707, DQ489718, NC_005080), MAC (AY619644, AY624354, NC_005079), OLI (NC_010250), PIC (NC_006439), PIR (NC_005897), SAB (NC_006313), TAC (NC_004292), TAM (AY924393), and WWA (AY924395).

Genbank accession numbers for Z amino acid sequences include: ALL (NC_010249), AMA (NC_010251), BCN (AY216503, NC_010255), CHA (EU260464), CPX (NC_010252), GTO (AY562388, AY562389, AY562390, AY562391, AY562392, AY562393, AY586551, AY586552, AY586553, AY586554, AY586555, NC_005082), JUN (AY216507, AY619640, AY819707, DQ489718, NC_005080), LAT (AY960333), MAC (AY619644, AY624354, AY960326, AY960327, AY960328, AY960329, AY960330, AY960331, AY960332, NC_005079), OLI (NC_010250), PIC (NC_006439), PIR (AY562384, AY562385, AY562386, AY562387, NC_005897), SAB (NC_006313), TAC (NC_004292), TAM (AY924393), and WWA (AY924395).

Genbank accession numbers for GPC amino acid sequences include: ALL (AY012686, NC_010253), AMA (NC_010247), BCN (AF512833, AY924392, NC_010256), CHA (EU260463), CPX (NC_010254), CTN (DQ865244, DQ865245), FLE (AF485257, AF512831), GTO (AY497548, NC_005077), JUN (AY619641, AY746353, D10072, DQ272266, NC_005081, U70799, U70800), LAT (AF512830), MAC (AY571959, AY619645, AY924202, AY924203, AY924204, AY924205, AY924206, AY924207, AY924208, NC_005078), OLI (NC_010248), PAR (AF485261), PIC (AF0181555, NC_006447), PIR (NC_005894), SAB (NC_006317), TAC (NC_004293), TAM (AF485263), and WWA (AF228063, AF485264).

Genbank accession numbers for NP amino acid sequences include: ALL (AY012686, NC_010253), AMA (NC_010247), BCN (AF512833, AY924392, NC_010256), CHA

(EU260463), CPX (NC_010254), CTN (DQ865244, DQ865245), FLE (AF485257, AF512831), GTO (AY497548, NC_005077), JUN (AY619641, AY746353, D10072, DQ272266, NC_005081), LAT (AF512830), MAC (AY571959, AY619645, AY924202, AY924203, AY924204, AY924205, AY924206, AY924207, AY924208, NC_005078), OLI (NC_010248), PAR (AF485261), PIC (AF0181555, NC_006447), PIR (NC_005894), SAB (NC_006317), TAC (NC_004293), TAM (AF485263), and WWA (AF228063, AF485264).