2. Variable nucleotide and amino acid sites in the composition of the studied sequences of (II-IV the exons) the Phola gene fragment of wild and cultivated samples of potato

| No | Gene fragment |  |  | Exon I |  |  |  | Exon |  |  |  |  |  | IV |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Nucleotide No. on cDNA | 18 | 25 | 31 | 33 | 40 | 85 | 99 | 120 | 129 | 150 | 174 | 186 | 189 | 240 | 252 |  |
|  | Nucleotide No. on the gene | 402 | 409 | 415 | 417 | 424 | 469 | 483 | 504 | 513 | 534 | 558 | 570 | 573 | 624 | 636 |  |
|  | a.a.r. No. in the analyzed fragment |  |  | 11 | 11 |  | 29 |  |  |  |  |  |  |  |  | 84 | Allelic |
|  | a.a.r. No. in the protein |  |  | 139 | 139 |  | 157 |  |  |  |  |  |  |  |  | 212 |  |
|  | Amino acid substitution |  |  | M/I | M/L |  | T/S |  |  |  |  |  |  |  |  | R/S |  |
| Solanum species (section Petota) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 | S. etuberosum | G | C | A | G | C | A | G | C | A | G | G | G | T | C | T | Phola_A1 |
| 2 | S. chacoense | G | C | A | G | C | A | G | C | A | G | G | G | T | C | G |  |
| 3 | S. polyadenium | G | C | A | G | C | A | G | C | A | G | G | G | T | C | G |  |
| 4 | S. lignicaule | G | c | A | G | C | A | G | C | A | G | G | G | T | C | G |  |
| 5 | S. boliviense | G | c | A | G | c | A | G | C | A | G | G | G | T | C | G | Phola_A2 |
| 6 | S. limbaniense | G | C | A | G | C | A | G | C | A | G | G | C | T | C | G |  |
| 7 | S. oploense | G | C | A | G | C | A | G | C | A | G | G | G | T | C | G |  |
| 8 | S. pampasense | G | C | A | G | C | A | G | T | A | G | G | G | T | C | G |  |
| 9 | S. demissum | G | C | A | G | C | A | G | T | A | G | G | G | T | C | G | Phola_A3 |
| 10 | S. bulbocastanum | G | C | A | G | C | A | G | C | A | G | G | G | C | C | G | Phola_A4 |
| 11 | S. stoloniferum | G | C | A | G | C | A | A | C | A | G | A | G | T | A | G | Phola_A5 |
| 12 | S. vernei | G | C | A | G | C | T | G | C | A | G | G | G | T | C | G | Pho 1a_A6 |
| 13 | S. sparsipilum | G | C | A | T | C | A | G | C | C | G | G | G | T | C | G | Pho 1a_A7 |
| 14 | S. circaieifolium | G | T | A | G | C | A | G | C | A | G | G | G | T | C | G | Phola_A8 |
| 15 | S. pinnatisectum | A | C | A | G | T | A | G | C | A | G | G | G | T | C | G | Pho 1a_A9 |
| Solanum tuberosum L. cultivars |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | Aurora | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 17 | Aladin | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 18 | Bintje | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 19 | Karasaiskii | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 20 | Plamya | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G | Pho1a_A10 |
| 21 | Red Scarlett | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 22 | Udacha | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 23 | Ushkonir | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 24 | Chernskii | G | C | T | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 25 | Barin | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 26 | Bashkirskii | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 27 | Briz | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 28 | Briz | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 29 | Brooke | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 30 | Bryanskii delikatesnyi | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 31 | Bryanskii rannii | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 32 | Vektor | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 33 | Vesna belaya | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 34 | Volan | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 35 | Golubizna | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 36 | Granola | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 37 | Désirée | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 38 | Didar | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 39 | Elizaveta | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 40 | Zhukovskii rannii | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 41 | Zolskii | G | c | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 42 | Zorochka | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 43 | Innovator | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 44 | Kamenskii | G | C | A | G | C | A | G | c | A | A | G | G | T | C | G |  |
| 45 | Kiebitz | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 46 | Kolobok | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 47 | Kortny | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 48 | Krasavchik | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 49 | Krepish | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 50 | Kuznechanka | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 51 | Courage | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 52 | Lasunok | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 53 | Lady Claire | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 54 | Lady Rosetta | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 55 | Liga | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 56 | Lileya | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 57 | Meteor | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 58 | Miras | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 59 | Nadezhda | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 60 | Nayada | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 61 | Nikita | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G | Phola_A2 |
| 62 | Newton | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 63 | Ognivo | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 64 | Ocharovanie | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 65 | Peterburgkii | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 66 | Prior | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 67 | Russet Burbank | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 68 | Resurs | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 69 | Ryabinushka | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 70 | Saturna | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 71 | Severnoe siyanie | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 72 | Sirenevyi tuman | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 73 | Spiridon | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 74 | Sudarinya | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 75 | Utro | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 76 | Favorit | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 77 | Fregata | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 78 | Fritella | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 79 | Khozyayushka | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 80 | Kholmogorskii | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 81 | Charodei | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 82 | Yantar | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 83 | Line 7 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 84 | Line 9 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 85 | Line 27 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 86 | Line 34 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 87 | Line 46 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 88 | Line 58 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 89 | Line 79 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 90 | Line 84 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 91 | Line 93 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 92 | Line 111 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 93 | Line 141 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 94 | Line 152 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |
| 95 | Line 162 | G | C | A | G | c | A | G | C | A | A | G | G | T | C | G |  |
| 96 | Line 165 | G | C | A | G | C | A | G | C | A | A | G | G | T | C | G |  |

