**Table S1: Characteristics of the SSR markers of the chickpea genotype identification kit**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Marker name** | **Repeat motif** | **Primer sequence (5'-3')** | **Ta** | **Linkage group**  | **Reference**  |
| CaSTMS2 | (TAT)25 | F: ATTTTACTTTACTACTTTTTTCCTTTC | 59 | 4 | Hüttel et al. (1999) |
|   |   | R: AATAAATGGAGTGTAAATTTCATGTA |   |   |   |
| CaSTMS15 | (ATT)21 | F: CTTGTGAATTCATATTTACTTATAGAT | 59 | 4 | Hüttel et al. (1999) |
|   |   | R: ATCCGTAATTTAAGGTAGGTTAAAATA |   |   |   |
| CaSTMS21 | (CT)9n(CTTT)2(CT)4 | F: CTACAGTCTTTTGTTCTTCTAGCTT | 59 | 6 | Hüttel et al. (1999) |
|   |   | R: ATATTTTTTAAGAGGCTTTTGGTAG |   |   |   |
| TA14 | (TAA)22n(TAA)4T(A)3n(AAT)5n(A)3(GAT)4(TAA)5 | F: TGACTTGCTATTTAGGGAACA | 59 | 6 | Winter et al. (1999) |
|   |   | R: TGGCTAAAGACAATTAAAGTT |   |   |   |
| TA21 | (TAA)51 | F: GTACCTCGAAGATGTAGCCGATA | 59 | 5 | Winter et al. (1999) |
|   |   | R: TTTTCCATTTAGAGTAGGATCTTCTTG |   |   |   |
| TA22 | (ATT)40 | F: TCTCCAACCCTTTAGATTGA | 59 | 4 | Winter et al. (1999) |
|   |   | R: TCGTGTTTACTGAATGTGGA |   |   |   |
| TA27 | (TAA)21 | F: GATAAAATCATTATTGGGTGTCCTTT | 59 | 7 | Winter et al. (1999) |
|   |   | R: TTCAAATAATCTTTCATCAGTCAAATG |   |   |   |
| TA28 | (TAA)37n(TAA)30 | F: TAATTGATCATACTCTCACTATCTGCC | 59 | 5 | Winter et al. (1999) |
|   |   | R: TGGGAATGAATATATTTTTGAAGTAAA |   |   |   |
| TA46 | (TAA)22 | F: TTTATTGCAATAAAACTCATTTCTTATC | 56 | 2 | Winter et al. (1999) |
|   |   | R: TTCTTTTTGTGTGAAAAAAAAATATAGTGA |   |   |   |
| TA64 | (TAA)39 | F: ATATATCGTAACTCATTAATCATCCGC | 59 | 1 | Winter et al. (1999) |
|   |   | R: AAATTGTTGTCATCAAATGGAAAATA |   |   |   |
| TA71 | (AAT)32 | F: CGATTTAACACAAAACACAAA | 59 | 3 | Winter et al. (1999) |
|   |   | R: CCTATCCATTGTCATCTCGT |   |   |   |
| TA72 | (ATT)36 | F: GAAAGATTTAAAAGATTTTCCACGTTA | 59 | 2 | Winter et al. (1999) |
|   |   | R: TTAGAAGCATATTGTTGGGATAAGAGT |   |   |   |
|   |   |   |   |   |   |
| TA76s | (AAT)7(AAT)4 [ACT(AAT)11]2n(AAT)3(AAT)2(ATT)5 | F: TCCTCTTCTTCGATATCATCA | 48 | 1 | Winter et al. (1999) |
|   |   | R: CCATTCTATCTTTGGTGCTT |   |   |   |
| TA113 | (TAA)26 | F: TCTGCAAAAACTATTACGTTAATACCA | 56 | 1 | Winter et al. (1999) |
|   |   | R: TTGTGTGTAATGGATTGAGTATCTCTT |   |   |   |
| TA116 | (TAA)5n(A)3(TAA)20 | F: AATTCAATGACGAATTTTTATAAGGG | 59 | NA | Winter et al. (1999) |
|   |   | R: AAAAAGAAAAGGGAAAAGTAGGTTTTA |   |   |   |
| TA117 | (ATT)52 | F: GAAAATCCCAAATTTTTCTTCTTCT | 56 | 7 | Winter et al. (1999) |
|   |   | R: AACCTTATTTAAGAATATGAGAAACACA |   |   |   |
| TA118 | (TAA)45 | F: ACAAGTCACATGTGTTCTCAATA | 59 | 8 | Unpublished (P. Winter, Germany) |
|   |   | R: GGAAAGGTTAAGAAATTTTACAATAC |   |   |   |
| TA130 | (TAA)19 | F: TCTTTCTTTGCTTCCAATGT | 59 | 2 | Winter et al. (1999) |
|   |   | R: GTAAATCCCACGAGAAATCAA |   |   |   |
| TA135 | (TAA)17 | F: TGGTTGGAAATTGATGTTTT | 56 | 1 | Winter et al. (1999) |
|   |   | R: GTGGTGTGAGCATAATTCAA |   |   |   |
| TA142 | (TTA)15 | F: TGTTAACATTCCCTAATATCAATAACTT | 48 | 7 | Winter et al. (1999) |
|   |   | R: TTCCACAATGTTGTATGTTTTGTAAG |   |   |   |
| TA200 | (TTA)37 | F: TTTCTCCTCTACTATTATGATCACCAG | 59 | 2 | Winter et al. (1999) |
|   |   | R: TTGAGAGGGTTAGAACTCATTATGTTT |   |   |   |
| TA206 | (TAA)25 | F: GTCCCACTTCCACTTATAAAGGTT | 59 | 2 | Winter et al. (1999) |
|   |   | R: TAACGTATCTTGCAGATTTCAAATAAA |   |   |   |
| TAA58 | (AAT)41 | F: CATTGCTTAAGAACCAAAATGG | 56 | 5 | Winter et al. (1999) |
|   |   | R: CAATTTTACATCGACGTGTGC |   |   |   |
| TaaSH | (TAA)40 | F: GGTAGACGCAAAAGAGTGGG | 59 | 3 | Winter et al. (1999) |
|   |   | R: GCCACATTGACCAGGAATG |   |   |   |
| TR2 | (TTA)36 | F: GGCTTAGAGTTCAAAGAGAGAA | 56 | 1 | Winter et al. (1999) |
|   |   | R: AACCAAGATTGGAAGTTGTG |   |   |   |
| TR29 | (TAA)8n(TAA)32 | F: GCCCACTGAAAAATAAAAAG | 59 | 3 | Winter et al. (1999) |
|   |   | R: ATTTGAACCTCAAGTTCTCG |   |   |   |
| TR31 | (TAA)20n(A)5 (TAA)9 | F: CTTAATCGCACATTTACTCTAAAATCA | 59 | 1 | Winter et al. (1999) |
|   |   | R: ATCCATTAAAACACGGTTACCTATAAT |   |   |   |
| TR43 | (TAA)24 | F: AGGACGAAACTATTCAAGGTAAGTAGA | 59 | 6 | Winter et al. (1999) |
|   |   | R: AATTGAGATGGTATTAAATGGATAACG |   |   |   |
| TR7 | (TTA)25 | F: GCATTATTCACCATTTGGAT | 59 | 4 | Winter et al. (1999) |
|   |   | R: TGTGATAATTTTCTAAGTGTTTT |   |   |   |
| TS84 | (TTA)25 | F: TTATAACAGCTTCCTTCTATTTGTTTTG | 59 | 7 | Winter et al. (1999) |
|   |   | R: AAGGCAAAAGTTTTTATCCCTTAATAG |   |   |   |
| NCPGR4 | (CT)16 | F: TTACAGCTTGTGCTCAG | 56 | 6 | Sethy et al. (2006) |
|   |   | F: AGTCAGATTCTTATCCGA |   |   |   |
| NCPGR6 | (CA)12 | R: GACCAAGATTAGTAGAACCT | 56 | 8 | Sethy et al. (2006) |
|   |   | F: TATGTCTACACCTATGCATC |   |   |  |
| NCPGR7 | (CA)14 | R: GACCAAGATTAGTAGAACCT | 56 | 2 | Sethy et al. (2006) |
|   |   | F: CTTGATAAGGATGAGTCATG |   |   |  |
| NCPGR12 | (CT)35 | R: CCTTGTTAGTGTGTATAGGT | 56 | 7 | Sethy et al. (2006) |
|   |   | R: GTAATGACCAAGTGAACA |   |   |  |
| NCPGR19 | (GA)19 | F: TCCATTGTAGCTTAGCTTAG | 56 | 7 | Sethy et al. (2006) |
|   |   | R: TCTTACTCTTAGCTTACCTCTT |   |   |   |

NA= not available; Ta=annealing temperature

**Table S2: Alleles identified for each SSR marker of the kit for reference accessions**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Marker** | **Allele size (bp)** | **C1** | **C2** | **C3** |
| CaSTMS2 | 232 | 241 | 244 | 256 | 259 | 262 | 271 |   | 262, 232, 244 | 256, 241, 256 | 244, 271, 259 |
| CaSTMS15 | 236 | 248 | 251 | 254 | 257 | 263 | 269 |   | 248, 251, 257 | 236, 263, 269 | 251, 254, 254 |
| CaSTMS21 | 168 | 172 |   |   |   |   |   |   | 168, 168, 172 | 172, 168, 172 | 168, 172, 172 |
| TA14 | 263 | 266 | 272 | 278 |   |   |   |   | 272, 278, 266 | 266, 272, 272 | 278, 263, 263 |
| TA21 | 328 | 331 | 337 | 346 | 349 | 352 | 355 | 361 | 352, 331, 361 | 337, 355, 328 | 349, 346, 346 |
| TA22 | 203 | 206 | 209 | 212 | 269 | 278 |   |   | 209, 212, 203 | 209, 278, 209 | 206, 269, 269 |
| TA27 | 224 | 227 | 233 | 236 | 239 | 242 |   |   | 227, 239, 233 | 239, 242, 236 | 236, 227, 224 |
| TA28 | 312 | 315 | 330 | 339 | 342 | 363 | 369 | 375 | 330, 315, 312 | 342, 375, 315 | 339, 369, 363 |
| TA46 | 127 | 142 | 145 | 148 | 151 | 154 |   |   | 142, 145, 142 | 145, 148, 151 | 127, 154, 154 |
| TA64 | 206 | 230 | 233 | 239 | 242 | 248 | 251 | 254 | 248, 254, 251 | 230, 239, 233 | 206, 242, 242 |
| TA71 | 184 | 187 | 196 | 202 | 205 | 214 | 223 |   | 196, 205, 214 | 196, 223, 202 | 202, 184, 187 |
| TA72 | 228 | 234 | 240 | 243 | 246 | 255 | 261 |   | 246, 255, 246 | 234, 261, 240 | 243, 234, 228 |
| TA76s | 203 | 212 | 218 |   |   |   |   |   | 203, 212, 218 | 218, 218, 212 | 212, 218, 218 |
| TA113 | 189 | 192 | 195 | 201 | 204 | 207 |   |   | 189, 201, 204 | 201, 201, 195 | 207, 192, 192 |
| TA116 | 179 | 182 | 194 | 212 |   |   |   |   | 179, 179, 182 | 194, 179, 179 | 179, 212, 212 |
| TA117 | 227 | 230 | 236 | 245 | 248 | 251 | 254 | 260 | 251, 230, 260 | 236, 254, 227 | 248, 245, 245 |
| TA118 | 188 | 191 | 200 | 215 | 218 | 230 |   |   | 215, 191, 200 | 188, 191, 230 | 200, 230, 218 |
| TA130 | 206 | 221 | 224 |   |   |   |   |   | 224, 221, 221 | 221, 206, 224 | 221, 224, 224 |
| TA135 | 175 | 190 | 193 | 199 |   |   |   |   | 199,193,193 | 193, 199, 193 | 175, 190, 190 |
| TA142 | 125 | 128 | 131 | 134 | 137 | 140 |   |   | 131,131,131 | 137, 128, 125 | 134, 140, 140 |
| TA200 | 271 | 274 | 286 | 292 | 295 | 298 | 298 | 307 | 271, 292, 271 | 295, 286, 298 | 298, 307, 274 |
| TA206 | 373 | 376 | 382 | 385 | 388 | 394 | 406 |   | 406, 382, 394 | 382, 388, 376 | 376, 385, 373 |
| TAA58 | 271 | 280 | 295 | 307 | 313 |   |   |   | 295, 307, 313 | 280, 307, 271 | 313, 313, 313 |
| TaaSH | 406 | 427 | 430 | 433 |   |   |   |   | 406, 430, 433 | 433, 433, 427 | 430, 436, 433 |
| TR2 | 214 | 223 | 229 | 241 | 244 | 250 |   |   | 229, 241, 223 | 229, 244, 223 | 250, 214, 214 |
| TR29 | 172 | 190 | 193 | 211 | 214 | 217 | 220 |   | 193, 217, 214 | 190, 220, 211 | 211, 172, 172 |
| TR31 | 198 | 201 | 210 | 213 | 216 |   |   |   | 198, 216, 198 | 210, 216, 213 | 201, 201, 201 |
| TR43 | 297 | 301 | 307 | 325 | 349 | 375 |   |   | 307, 375, 301 | 349, 369, 301 | 325, 297, 297 |
| TR7 | 197 | 200 | 203 | 206 | 209 | 212 | 217 | 218 | 217, 212, 209 | 218, 206, 203 | 203, 200,197 |
| TS84 | 226 | 230 | 238 | 244 |   |   |   |   | 230, 226, 226 | 226, 230, 230 | 226, 238, 244 |
| NCPGR12 | 213 | 225 | 253 | 255 | 259 | 261 |   |   | 259, 261, 225 | 253, 253, 213 | 255, 235, 235 |
| NCPGR19 | 298 | 300 | 308 | 312 |   |   |   |   | 300, 308, 298 | 300, 308, 298 | 308, 312, 312 |
| NCPGR4 | 180 | 194 | 196 |   |   |   |   |   | 194, 180, 194 | 194,196, 194 | 198, 194, 194 |
| NCPGR6 | 249 | 251 | 255 |   |   |   |   |   | 249, 255, 251 | 251, 255, 251 | 249, 251, 251 |
| NCPGR7 | 217 | 219 | 223 |   |   |   |   |   | 217, 223, 219 | 219, 223, 219 | 217, 219, 219 |

\*C1= ICC 14446, ICC 15996, ICC 15994; C2= ICC 11265, ICC 6537, ICCV 2; C3 = Annigeri, ICC 13454, ICC 4366