

Table S5. BLAST results for primer sequence identity and subject information for plant samples, namely *S. krylovii* (SK) and *A. frigida* (AF).

| Samples | Primer Sequence | Subject Description | Identities | | | | | | | |
|---------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------|-------|-------|------|-------|----------|--|
| | | | AC | Leng | Start | End | Matc | Total | Pct. (%) | |
| SSK 4-1 | rbcL | <i>Stipa zalesskii</i> voucher KRA S/83/1 plastid, complete genome | MG052616.1 | 137836 | 8787 | 9362 | 575 | 576 | 99 | |
| | | <i>Stipa pennata</i> subsp. <i>pennata</i> voucher KRA S/42/16 plastid, complete genome | MG052611.1 | 137818 | 8781 | 9356 | 575 | 576 | 99 | |
| | | <i>Stipa pennata</i> subsp. <i>ceynowae</i> voucher KRA S/72/1 plastid, complete genome | MG052610.1 | 137825 | 8778 | 9353 | 575 | 576 | 99 | |
| | | <i>Stipa hohenackeriana</i> voucher KRA S/13/2 plastid, complete genome | MG052603.1 | 137853 | 8778 | 9353 | 575 | 576 | 99 | |
| | | <i>Stipa capillata</i> voucher KRA S/4/3 plastid, complete genome | MG052599.1 | 137835 | 8778 | 9353 | 575 | 576 | 99 | |
| WAF 2-2 | rbcL | Unidentified plant isolate DNAS-140-173489 ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcL) gene, partial cds; chloroplast | MF102284.1 | 601 | 15 | 594 | 579 | 580 | 99 | |
| | | <i>Artemisia tridentata</i> isolate DNAS-19F-205718 ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcL) gene, partial cds | MH048920.1 | 602 | 10 | 589 | 578 | 580 | 99 | |
| | | <i>Artemisia tridentata</i> isolate DNAS-19E-205620 ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcL) gene, partial cds | MH048919.1 | 602 | 10 | 589 | 578 | 580 | 99 | |
| | | <i>Artemisia tridentata</i> isolate DNAS-19D-202488 ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcL) gene, partial cds | MH025371.1 | 606 | 20 | 599 | 578 | 580 | 99 | |
| | | <i>Artemisia tridentata</i> isolate DNAS-18A-186142 ribulose-1,5-bisphosphate carboxylase/oxygenase large subunit (rbcL) gene, partial cds; chloroplast | MG668936.1 | 615 | 22 | 601 | 578 | 580 | 99 | |
| SAF 4-2 | rbcL | <i>Artemisia capillaris</i> voucher Artemisia capillaris chloroplast, complete genome | KY073391.1 | 151020 | 54750 | 55320 | 571 | 571 | 100 | |
| | | <i>Artemisia gmelinii</i> chloroplast, complete genome | KY073390.1 | 151050 | 54795 | 55365 | 571 | 571 | 100 | |
| | | <i>Artemisia capillaris</i> chloroplast, complete genome | KU736963.1 | 151056 | 54758 | 55328 | 571 | 571 | 100 | |
| | | <i>Artemisia gmelinii</i> chloroplast, complete genome | KU736962.1 | 151318 | 54944 | 55514 | 571 | 571 | 100 | |
| | | <i>Artemisia vulgaris</i> chloroplast rbcL gene for Rubisco large subunit | LT576797.1 | 1389 | 12 | 582 | 571 | 571 | 100 | |
| SSK 4-1 | matK | <i>Stipa zalesskii</i> voucher KRA S/83/1 plastid, complete genome | MG052616.1 | 137836 | 93950 | 93095 | 854 | 856 | 99 | |
| | | <i>Stipa x brevicallosa</i> voucher KRA S/15/4 plastid, complete genome | MG052615.1 | 137850 | 93918 | 93063 | 854 | 856 | 99 | |
| | | <i>Stipa x alaica</i> voucher KRA S/7/10 plastid, complete genome | MG052614.1 | 137850 | 93933 | 93078 | 854 | 856 | 99 | |
| | | <i>Stipa tianschanica</i> var. <i>gobica</i> voucher KRA S/78/2 plastid, complete genome | MG052613.1 | 137847 | 93942 | 93087 | 854 | 856 | 99 | |

| | | | | | | | | | |
|---------|------|---------------------------------------------------------------------------------------------------|--------------|--------|-------|-------|-----|-----|----|
| | | <i>Stipa richteriana</i> subsp. <i>richteriana</i> voucher KRA S/70/1 plastid, complete genome | MG052612. 1 | 137831 | 93941 | 93086 | 854 | 856 | 99 |
| WAF 2-2 | matK | <i>Artemisia gmelinii</i> chloroplast, complete genome | KY073390.1 | 151050 | 3093 | 2268 | 826 | 827 | 99 |
| | | <i>Artemisia frigida</i> chloroplast, complete genome | JX293720.1 | 151076 | 3092 | 2267 | 826 | 827 | 99 |
| | | <i>Artemisia selengensis</i> chloroplast, complete genome | NC_039647. 1 | 151215 | 3074 | 2249 | 825 | 827 | 99 |
| | | <i>Artemisia selengensis</i> chloroplast, complete genome | MH042532. 1 | 151215 | 3074 | 2249 | 825 | 827 | 99 |
| | | <i>Artemisia annua</i> chloroplast, complete genome | MF623173.1 | 150955 | 79800 | 80625 | 825 | 827 | 99 |
| SAF 4-2 | matK | <i>Artemisia gmelinii</i> chloroplast, complete genome | KY073390.1 | 151050 | 3120 | 2268 | 850 | 854 | 99 |
| | | <i>Artemisia frigida</i> chloroplast, complete genome | JX293720.1 | 151076 | 3119 | 2267 | 850 | 854 | 99 |
| | | <i>Artemisia selengensis</i> chloroplast, complete genome | NC_039647. 1 | 151215 | 3101 | 2249 | 850 | 854 | 99 |
| | | <i>Artemisia selengensis</i> chloroplast, complete genome | MH042532. 1 | 151215 | 3101 | 2249 | 850 | 854 | 99 |
| | | <i>Artemisia annua</i> chloroplast, complete genome | MF623173.1 | 150955 | 79773 | 80625 | 850 | 854 | 99 |