**Table S1. p-values for all parameters tested for both MJESs and IPSs in RPS12.**

|  |  |  |  |
| --- | --- | --- | --- |
| **RPS12****Test** | **Replicate 1 p-value**  | **Replicate 2 p-value** | **Replicate 3 p-value** |
| **Site 5’ of MJES requires addition** | 0.38 | 0.42 | 0.45 |
| **Site 5’ of MJES requires deletion** | 1 | 1 | 1 |
| **Nt 5’ of MJES is A** | 0.56 | 1 | 1 |
| **Nt 5’ of MJES is G** | 0.77 | 0.58 | 0.60 |
| **Nt 5’ of MJES is C** | 0.23 | 0.27 | 0.48 |
| **MJES occurs at site requiring addition** | 0.04 (de-enriched) | 0.05 (de-enriched) | 0.02 (de-enriched) |
| **MJES occurs at site requiring deletion** | 2.58e-5 (enriched) | 1.03e-3 (enriched) | 2.4e-4 (enriched) |
| **MJES occurs at site requiring no action** | 0.38 | 0.79 | 0.80 |
| **Nt 3’ of MJES is A**  | 0.07 | 1 | 1 |
| **Nt 3’ of MJES is G** | 0.56 | 0.79 | 1 |
| **Nt 3’ of MJES is C** | 0.13 | 0.71 | 0.73 |
| **ES 5’ of IPS requires addition** | 0.82 | 0.26 | 0.48 |
| **ES 5’ of IPS requires deletion** | 0.45 | 0.70 | 0.04 |
| **ES 5’ of IPS requires no action** | 0.63 | 0.17 | 0.05 |
| **Nt 5’ of IPS is A** | 1 | 0.82 | 0.33 |
| **Nt 5’ of IPS is G** | 0.47 | 1 | 0.09 |
| **Nt 5’ of IPS is C** | 0.53 | 1 | 0.53 |
| **IPS occurs at site requiring addition** | 0.82 | 0.50 | 0.48 |
| **IPS occurs at site requiring deletion** | 1 | 1 | 1 |
| **IPS occurs at site requiring no action** | 1 | 0.65 | 0.63 |
| **Nt 3’ of IPS is A** | 0.05 (de-enriched) | 0.02 (de-enriched) | 0.15 |
| **Nt 3’ of IPS is G** | 0.10 | 0.04 (enriched) | 0.10 |
| **Nt 3’ of IPS is C** | 0.75 | 0.76 | 1 |

**Table S2. p-values for all parameters tested for both MJESs and IPSs in ND7-5’.**

|  |  |  |  |
| --- | --- | --- | --- |
| **ND7-5’****Test** | **Replicate 1 p-value**  | **Replicate 2 p-value** | **Replicate 3 p-value** |
| **Site 5’ of MJES requires addition** | 0.14 | 0.29 | 0.45 |
| **Site 5’ of MJES requires deletion** | 0.60 | 1 | 0.56 |
| **Nt 5’ of MJES is A** | 1 | 0.73 | 1 |
| **Nt 5’ of MJES is G** | 0.06 | 0.28 | 0.14 |
| **Nt 5’ of MJES is C** | 0.06 | 0.19 | 0.35 |
| **MJES occurs at site requiring addition** | 1 | 1 | 0.72 |
| **MJES occurs at site requiring deletion** | 0.10 (enriched) | 0.03 (enriched) | 0.02 (enriched) |
| **MJES occurs at site requiring no action** | 0.23 | 0.16 | 0.06 (de-enriched) |
| **Nt 3’ of MJES is A**  | 0.35 | 0.14 | 0.14 |
| **Nt 3’ of MJES is G** | 1 | 0.71 | 0.45 |
| **Nt 3’ of MJES is C** | 0.12 | 0.07 | 0.19 |
| **ES 5’ of IPS requires addition** | 0.02 (enriched) | 0.34 | 0.03 (enriched) |
| **ES 5’ of IPS requires deletion** | 0.58 | 0.32 | 0.64 |
| **ES 5’ of IPS requires no action** | 0.10 | 0.12 | 0.01 (de-enriched) |
| **Nt 5’ of IPS is A** | 1 | 1 | 0.39 |
| **Nt 5’ of IPS is G** | 0.16 | 0.34 | 0.56 |
| **Nt 5’ of IPS is C** | 0.20 | 0.44 | 0.17 |
| **IPS occurs at site requiring addition** | 0.31 | 0.34 | 0.27 |
| **IPS occurs at site requiring deletion** | 0.24 | 0.32 | 0.17 |
| **IPS occurs at site requiring no action** | 0.09 | 0.12 | 0.05 |
| **Nt 3’ of IPS is A** | 0.08 | 0.52 | 0.26 |
| **Nt 3’ of IPS is G** | 0.03 | 0.11 | 0.02 |
| **Nt 3’ of IPS is C** | 1 | 1 | 0.50 |

**Table S3: Primers Used in this Study**

|  |  |
| --- | --- |
| **Name** | **Primer Sequences** |
| RPS12 Fwd | TCGTCGGCAGCGTCAGATGTGTATAAGAGACAGCTAATACACTTTTGATAACAAAC |
| RPS12 Rev | GTCTCGTGGGCTCGGAGATGTGTATAAGAGACAGAAAAACATATCTTATATCTAAA |
| ND7-5’ Fwd | TCGTCGGCAGCGTCAGATGTGTATAAGAGACAGAAAAAACATGACTACATGATAAG |
| ND7-5’ Rev | GTCTCGTGGGCTCGGAGATGTGTATAAGAGACAGATTCACATAACTTTTCTGTACCAC |