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| --- | --- | --- | --- |
| **ID** | **Species** | **Strain ID** | **Culture type** |
| 2431\_BPAMUL\_FB | *Psilocybe cubensis* | BP-A-MUL | Fruiting Body |
| 2603\_BPSTAR\_FB | *Psilocybe cubensis* | BP-STAR | Fruiting Body |
| 2453\_PAZ1\_MP | *Psilocybe allenii* | P-AZ-1 | Liquid culture mycelium |
| 2441\_BPAMUL\_MP | *Psilocybe cubensis* | BP-A-MUL | Liquid culture mycelium |
| 2459\_PCY1\_MP | *Psilocybe cyanescens* | P-CY-1 | Liquid culture mycelium |
| 2443\_BPAMUL\_MP | *Psilocybe cubensis* | BP-A-MUL | Liquid culture mycelium |
| 2446\_5015B1\_FB | *Psilocybe cubensis* | 5015-B.1 | Fruiting Body |
| 2432\_BPAMUL\_FB | *Psilocybe cubensis* | BP-A-MUL | Fruiting Body |
| 2547\_BPSTAR\_GM | *Psilocybe cubensis* | BP-STAR | Grain spawn mycelium |
| 2481\_PAZ1\_MP | *Psilocybe allenii* | P-AZ-1 | Liquid culture mycelium |
| 2552\_BPSTAR\_GM | *Psilocybe cubensis* | BP-STAR | Grain spawn mycelium |
| 2458\_PCY1\_MP | *Psilocybe cyanescens* | P-CY-1 | Liquid culture mycelium |
| 2558\_BPSTAR\_GM | *Psilocybe cubensis* | BP-STAR | Grain spawn mycelium |
| 2534\_PAZ1\_GM | *Psilocybe allenii* | P-AZ-1 | Grain spawn mycelium |
| 2455\_PAZ1\_MP | *Psilocybe allenii* | P-AZ-1 | Liquid culture mycelium |
| 2574\_LKMUL\_FB | *Psilocybe cubensis* | LK-MUL | Fruiting Body |
| 2540\_PAZ1\_GM | *Psilocybe allenii* | P-AZ-1 | Grain spawn mycelium |
| 2528\_5015B1\_FB | *Psilocybe cubensis* | 5015-B.1 | Fruiting Body |
| 2473\_BPASTAR\_FB | *Psilocybe cubensis* | BP-A-STAR | Fruiting Body |
| 2483\_LKMUL\_FB | *Psilocybe cubensis* | LK-MUL | Fruiting Body |
| 2571\_LKMUL\_FB | *Psilocybe cubensis* | LK-MUL | Fruiting Body |
| 2477\_AVMUL\_FB | *Psilocybe cubensis* | AV-MUL | Fruiting Body |
| 2471\_BPASTAR\_FB | *Psilocybe cubensis* | BP-A-STAR | Fruiting Body |
| 2531\_PAZ1\_GM | *Psilocybe allenii* | P-AZ-1 | Grain spawn mycelium |
| 2522\_5015B1\_FB | *Psilocybe cubensis* | 5015-B.1 | Fruiting Body |
| 2579\_BPSTAR\_FB | *Psilocybe cubensis* | BP-STAR | Fruiting Body |
| 2600\_BPSTAR\_FB | *Psilocybe cubensis* | BP-STAR | Fruiting Body |
| 2621\_BPAMUL\_FB | *Psilocybe cubensis* | BP-A-MUL | Fruiting Body |
| 2475\_AVMUL\_FB | *Psilocybe cubensis* | AV-MUL | Fruiting Body |
| 2516\_BPASTAR\_FB | *Psilocybe cubensis* | BP-A-STAR | Fruiting Body |
| 2414\_AVMUL\_FB | *Psilocybe cubensis* | AV-MUL | Fruiting Body |
| 2591\_BPSTAR\_FB | *Psilocybe cubensis* | BP-STAR | Fruiting Body |

**Supplementary Table 1**: Sample Data with unique ID, Species name, Strain ID and Culture Type used in targeted and untargeted analysis.