**Table S1**

Three sets of primers used to identify *Pseudoperonospora cubensis* in sporangia and plant material of cucurbits.

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| --- | --- | --- | --- |
| **Primer Set** | **Forward** | **Reverse** | **Specificity** |
| **1** | GGATGAAGTAATTGATCCTATC | GTAATTAATACTCGAATATGG | *P. cubensis* clade 1 and clade 2, and *P. humuli* |
| **2** | TAATTGTAGTTACAGTATTC | GTAAAACATCAGAAGCTGTG | *P. cubensis* clades 1 and clade 2 |
| **3** | TAATTGTAGTTACAGTATTC | GTAATTAATACTCGAATATGG | *P. cubensis* clade 1 |