

# MycoReal Kit *Pneumocystis*



## MycoReal Kit *Pneumocystis*

Order no.	Reactions	Pathogen	Internal positive control
DHUF00353	50	FAM channel	Cy5 channel

*For Research Use Only. Not for use in diagnostic procedures.*

### Kit contents:

- Detection assay for *Pneumocystis jiroveci*
- Detection assay + target for internal DNA positive control (control of PCR amplification and DNA extraction)
- DNA reaction mix
- Nuclease-free water
- Positive control for *Pneumocystis jiroveci*



**Background:** *Pneumocystis jiroveci* (formerly *Pneumocystis carinii*) is a yeast-like fungus which can be found worldwide. *Pneumocystis jiroveci* is a distinct species that only infects humans, while the related species *P. carinii* can be found in rodents and other mammals. Airborne transmission of *Pneumocystis* from host to host has been demonstrated in rodent models and several observations suggest that interindividual transmission occurs in humans. Both healthy and immunocompromised people can be colonised with *P. jiroveci*. While it does not affect healthy people, *P. jiroveci* can cause an interstitial Pneumocystis-pneumonia (PCP) in HIV-patients, persons with primary immune deficiencies, including hypogammaglobulinemia and severe combined immunodeficiency (SCID), patients receiving long-term immunosuppressive regimens for connective-tissue disorders, vasculitides, or solid-organ transplantation, patients with hematologic and nonhematologic malignancies, including solid tumors and lymphomas, and persons with severe malnutrition. Currently the diagnosis of PCP relies on microscopic methods or PCR, as *P. jiroveci* cannot be cultured in routine microbiology laboratories.

**Description:** MycoReal Kit *Pneumocystis* is a real-time PCR test detecting DNA of the mitochondrial large-subunit rRNA gene (mt LSU) of *P. jiroveci*. It allows the rapid and sensitive detection of *P. jiroveci* from DNA samples purified from bronchoalveolar lavages (BAL), tissue and paraffin embedded tissue (e.g. with the QIAamp DNA Mini Kit). *Pneumocystis jiroveci* DNA is detected in FAM channel. The internal DNA positive control (DNA IPC) is detected in Cy5 channel and is used as DNA extraction as well as PCR inhibition control. The DNA IPC target is extracted with the sample.

**PCR-platforms:** This kit has been validated with ABI® 7500 Fast Real-time PCR System (Thermo Fisher Scientific) and tested with LightCycler® 480 Instrument II (Roche) and Mx3005P® QPCR System (Agilent). It is compatible with real-time PCR instruments detecting and differentiating fluorescence in FAM and Cy5 channel.

**Specificity and sensitivity:** MycoReal Kit *Pneumocystis* has a LoD 95% (defined as the concentration, where 95% of 20 PCR repeats were positive) of 15 target copies/PCR.

Specificity was tested on isolates of several species of *Candida* and *Aspergillus*. No reactivity was observed

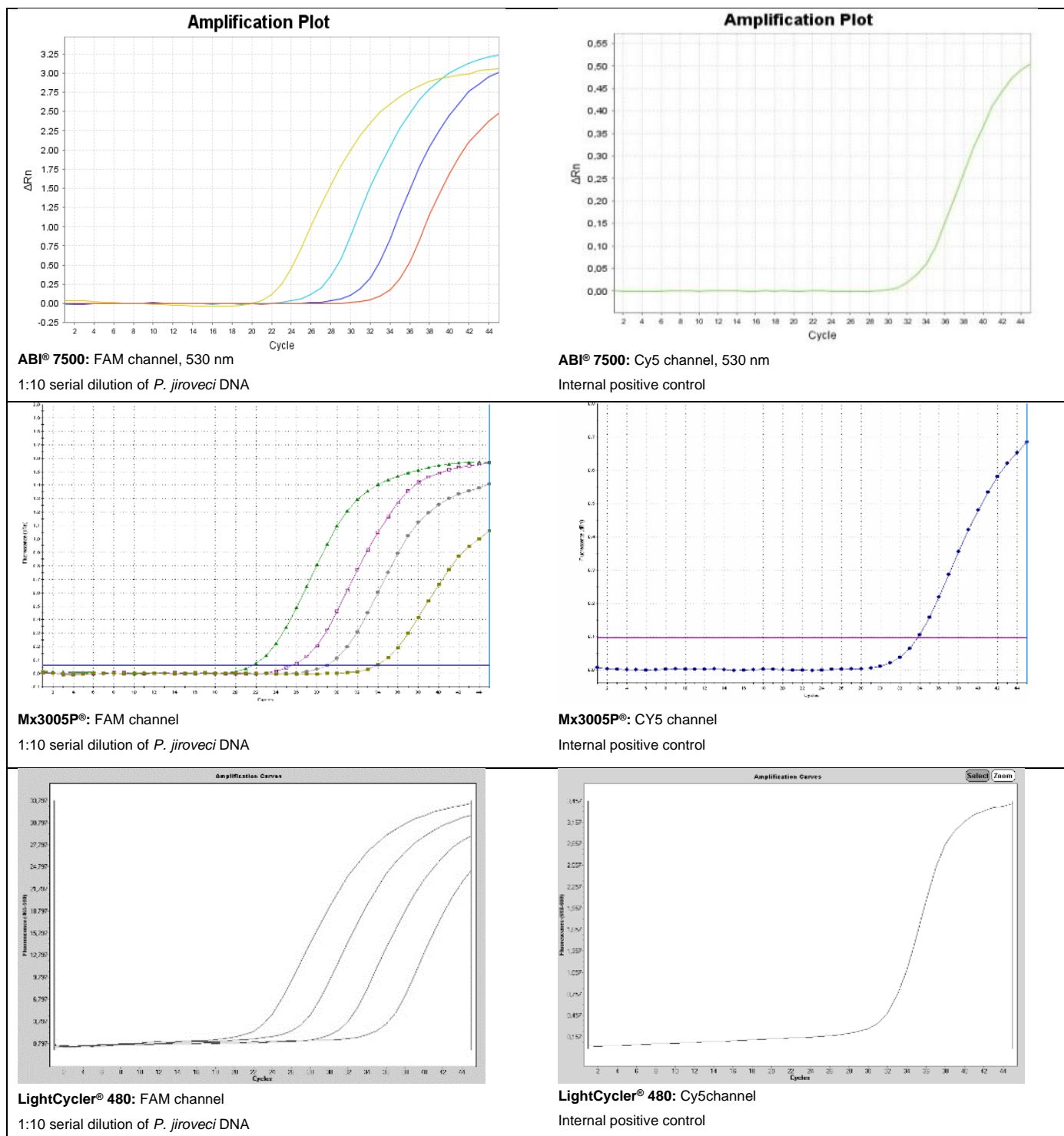


Figure 1 Performance of MycoReal Kit *Pneumocystis*

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