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## ANTIGEN DETECTION FOR DIAGNOSIS OF *PENICILLIUM MARNEFFEI* INFECTION

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The number of infections arising due to the opportunistic fungal pathogen *Penicillium marneffeii* has risen dramatically in recent years and coincides with the increase in HIV infections throughout areas of endemicity in South East Asia, particularly in Thailand. Indeed, *P. marneffeii* infection is considered an AIDS defining illness in this area. Misdiagnosis of infection and delayed antifungal treatment is associated with poor prognosis and can result in death. Therefore, rapid and highly specific methods of detection for the infection are desirable. Antibody detection assays are subject to potential limitations as immunocompromised patients produce insufficient antibody for detection in immunodiagnostic assays. Therefore, diagnosis of infection is dependant on the detection of fungal antigens. In order to develop assays to detect immunogenic fungal antigens, cyclophosphamide ablation of the murine immune response was utilised to produce murine monoclonal antibodies (MAbs) specifically reactive with *P. marneffeii* yeast phase antigens. Characterisation of the antigen recognised by one of these MAbs (4D1) revealed an immunogenic glycoprotein that was almost exclusively expressed in yeast cells of numerous *P. marneffeii* isolates and undetected in other medically important fungal pathogens. This glycoprotein antigen has been detected by MAb 4D1 in both sera and urine samples from patients with suspected *P. marneffeii* infection by assays such as immuno dotblot and Western immunoblot. An inhibition ELISA incorporating MAb 4D1 has been standardised and these studies have indicated that the MAb maybe a suitable reagent for quantitative antigen detection in both sera and urine using this methodology. Future studies will focus on the further development of antigen detection assays incorporating the antigenic glycoprotein and MAb 4D1.