Evaluation of a novel real-time PCR for detecting Rasamsonia argillacea species complex in respiratory secretions from CF patients

Titre	Evaluation of a novel real-time PCR for detecting Rasamsonia argillacea species complex in respiratory secretions from CF patients
Type de publication	Communication
Type	Communication sans actes dans un congrès
Année	2014
Langue	Anglais
Date du colloque	05-06/06/2014
Titre du colloque	Third Meeting of the ECMM/ISHAM Working group "Fungal respiratory infections in Cystic Fibrosis" (Fri-CF)
Auteur	Steinmann, Joerg [1], Giraud, Sandrine [2], Schmidt, Dirk [3], Sedlacek, Ludwig [4], Hamprecht, Axel [5], Houbraken, Jos [6], Meis, Jacques F. [7], Bouchara, Jean-Philippe [8], Buer, Jan [9], Rath, Peter-Michael [10]
Pays	France
Ville	Angers
Résumé en anglais	Members of the recently introduced fungal genus *Rasamsonia* (formerly *Geosmithia*) have been described as emerging pathogens in immunosuppressed hosts or patients with cystic fibrosis (CF). *Rasamsonia* species have often been misidentified as *Penicillium* or *Paecilomyces* because of similar morphological characteristics. We validated a commercially available real-time PCR assay for accurate detection of species from the *Rasamsonia argillacea* complex. First we tested this assay with a collection of 74 reference strains and clinical isolates and then compared the PCR with cultures of 234 respiratory samples from 152 patients with CF from two University Hospitals in Germany and France. The assay reliably detected the three main species within the *R. argillacea* species complex (*R. argillacea*, *R. piperina*, *R. aegroticola*) which are typically encountered in CF patients. The limit of DNA detection was between 0.01 and 1 pg/µL. Analysis of the DNA extracts from respiratory specimens of CF patients revealed that four out of the 153 patients studied (2.6%) were colonised with *R. argillacea* species complex. Two species from the *R. argillacea* complex grew in the parallel cultures from the same patients. In one patient the PCR was positive five months prior to culture. The real-time PCR assay is a sensitive and specific method for detecting the three most important species of the *R. argillacea* species complex encountered in the CF context. Detection of these emerging pathogens in respiratory secretions from CF patients by this novel assay may increase our understanding of the occurrence and epidemiology of *R. argillacea* species complex.
URL de la notice	http://okina.univ-angers.fr/publications/ua11254 [11]

Lien vers le document en ligne	http://www.isham.org/WorkingGroups/CysticFibrosis/ThirdMeeting2014/24-St... [12]

Liens
[1] http://okina.univ-angers.fr/publications?f[author]=15297
[2] http://okina.univ-angers.fr/sandrine.giraud/publications
[3] http://okina.univ-angers.fr/publications?f[author]=19977
[4] http://okina.univ-angers.fr/publications?f[author]=19978
[5] http://okina.univ-angers.fr/publications?f[author]=19979
[6] http://okina.univ-angers.fr/publications?f[author]=19980
[7] http://okina.univ-angers.fr/publications?f[author]=15286
[8] http://okina.univ-angers.fr/j.bouchara/publications
[9] http://okina.univ-angers.fr/publications?f[author]=19982
[10] http://okina.univ-angers.fr/publications?f[author]=15296
[11] http://okina.univ-angers.fr/publications/ua11254
[12] http://www.isham.org/WorkingGroups/CysticFibrosis/ThirdMeeting2014/24-Steinmann.pdf