

Allergological profil of Basidiomycete sensitized subjects

Autor(en): **Helbling, Arthur / Gayer, Federica / Brander, Karl A.**

Objekttyp: **Article**

Zeitschrift: **Mycologia Helvetica**

Band (Jahr): **10 (1998-1999)**

Heft 1

PDF erstellt am: **29.05.2024**

Persistenter Link: <https://doi.org/10.5169/seals-1036396>

Nutzungsbedingungen

Die ETH-Bibliothek ist Anbieterin der digitalisierten Zeitschriften. Sie besitzt keine Urheberrechte an den Inhalten der Zeitschriften. Die Rechte liegen in der Regel bei den Herausgebern.

Die auf der Plattform e-periodica veröffentlichten Dokumente stehen für nicht-kommerzielle Zwecke in Lehre und Forschung sowie für die private Nutzung frei zur Verfügung. Einzelne Dateien oder Ausdrucke aus diesem Angebot können zusammen mit diesen Nutzungsbedingungen und den korrekten Herkunftsbezeichnungen weitergegeben werden.

Das Veröffentlichen von Bildern in Print- und Online-Publikationen ist nur mit vorheriger Genehmigung der Rechteinhaber erlaubt. Die systematische Speicherung von Teilen des elektronischen Angebots auf anderen Servern bedarf ebenfalls des schriftlichen Einverständnisses der Rechteinhaber.

Haftungsausschluss

Alle Angaben erfolgen ohne Gewähr für Vollständigkeit oder Richtigkeit. Es wird keine Haftung übernommen für Schäden durch die Verwendung von Informationen aus diesem Online-Angebot oder durch das Fehlen von Informationen. Dies gilt auch für Inhalte Dritter, die über dieses Angebot zugänglich sind.

Ein Dienst der *ETH-Bibliothek*

ETH Zürich, Rämistrasse 101, 8092 Zürich, Schweiz, www.library.ethz.ch

<http://www.e-periodica.ch>

Allergological profil of Basidiomycete sensitized subjects

Arthur Helbling, Federica Gayer and Karl A. Brander

Institute of Immunology and Allergology,
University Hospital Bern, Switzerland

Basidiomycetes are morphologically the most complex of all the fungal classes and include mushrooms, puffballs, rusts, smuts and bracket fungi. Spores of *Basidiomycetes* are abundantly found in the outdoor air in many parts of the world. Although positive skin tests, specific serum IgE's and bronchial reactivity have been demonstrated in sensitive subjects, the significance of *Basidiomycetes* as respiratory allergens is not established. Recently it has been demonstrated, that the sensitization to *Basidiomycetes* in Europe and in the USA is comparable to that of well-known *fungi imperfecti* such as *Alternaria*, *Cladosporium*, *Fusarium* and *Aspergillus*. In the present study, we sought to examine whether sensitization to 3 common mushrooms (*Boletus edulis*, *Coprinus comatus*, and *Pleurotus ostreatus*) can be found in subjects referred to an out-patient allergy clinic. We evaluated clinical symptoms of these individuals and identified allergens of these mushrooms by immunoblotting.

Nineteen of 380 subjects (5.0%) with a history of respiratory allergy reacted to at least one of the basidiomycete extracts prepared in our laboratory. 15/19 of these subjects had asthma and 4/19 had rhinitis. Most individuals had an atopic background and 12/19 (63%) were sensitized to molds. SDS-PAGE/αIgE immunoblots of *Pleurotus ostreatus* revealed 2 reactive bands at 30 and 80 kD, 7 bands (29–110 kD) with *Coprinus comatus* and several bands (34–50 kD) with *Boletus edulis* using pooled sera from 6 skin test-positive subjects. Between *Boletus edulis* and *Coprinus comatus* some putative common allergens were found at 26, 65 and 83 kD. In order to evaluate a cause-and-effect relationship between sensitization to *Basidiomycetes* and respiratory allergy, we are currently performing nasal challenge tests by anterior rhinomanometry. To date, 10 subjects (5 *Pleurotus ostreatus* spores skin test positive and 5 negative) have been challenged with 3 different *Pleurotus ostreatus* concentrations (0.1, 1.0 and 10.0 mg/ml). Following the base-line measurement with saline, 40–50 µl of the test solution was sprayed into the nostril in 15 minutes intervals beginning at the lowest concentration. Whereas neither of the 5 controls did react subjectively, nor objectively with any of the concentrations of *Pleurotus ostreatus* extracts, all of the *Pleurotus ostreatus* skin test-positive patients experienced subjective symptoms and a total nasal occlusion at various test concentrations.

Our preliminary data demonstrate, that *Basidiomycetes* may be relevant aeroallergens and may cause respiratory allergies. As demonstrated by immunoblots, *Boletus edulis*, *Coprinus comatus*, and *Pleurotus ostreatus* contain multiple allergens. Further efforts are directed at characterization of major allergenic components of *Boletus edulis*, *Coprinus comatus*, and *Pleurotus ostreatus* via molecular biology methods. The cDNA of a putative *Coprinus comatus* allergen (Cop c 1) has been isolated and is being characterized.