

# Prevalence of Antibodies against *Saccharomyces cerevisiae* in the Diagnosis of Chronic Inflammatory Bowel Disease

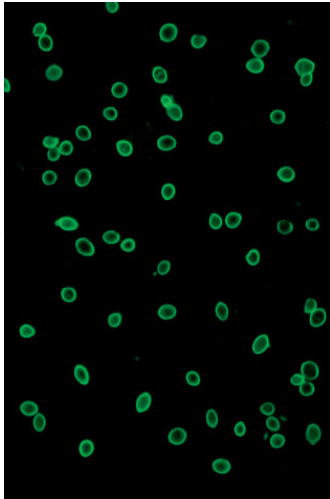
B. Teegen<sup>1</sup>, E. Müller-Kunert<sup>1</sup>, B. Zerbe<sup>1</sup>, C. Dährnich<sup>1</sup>, M. Groeury<sup>2</sup>,  
R. L. Humbel<sup>2</sup>, W. Schlumberger<sup>1</sup>, and W. Stöcker<sup>1</sup>

EUROIMMUN

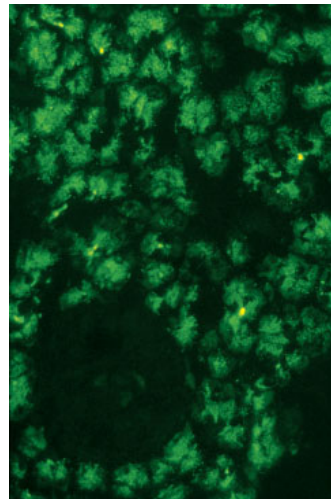
Medizinische  
Labordiagnostika  
AG



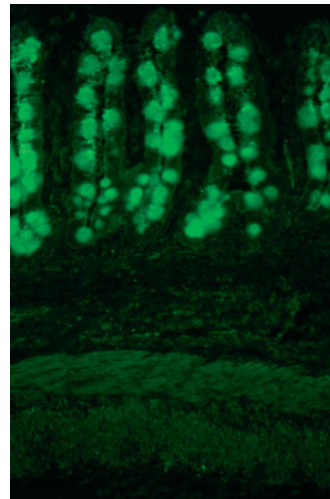
<sup>1</sup>EUROIMMUN AG, Luebeck, Germany, <sup>2</sup>Centre Hospitalier de Luxembourg



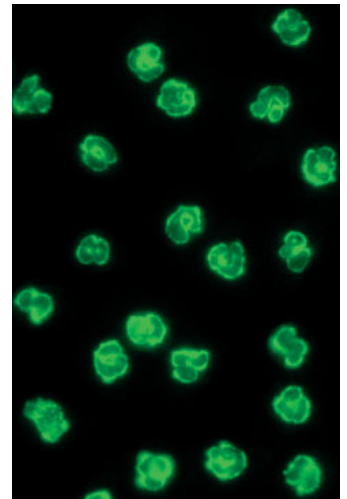
Antibodies against *Saccharomyces cerevisiae*



Autoantibodies against exocrine pancreas



Autoantibodies against intestinal goblet cells



Human ethanol-fixed granulocytes: pANCA

## Introduction

Antibodies against *Saccharomyces cerevisiae* can be frequently found in the serum of patients suffering from Crohn's disease. They enrich the serological diagnostics of chronic inflammatory bowel diseases by a further parameter, adding to autoantibodies against exocrine pancreas (specific for Crohn's disease), against goblet cells (pathognomonic of ulcerative colitis), and against granulocytes (pANCA).

## Methods

Antibodies against *Saccharomyces cerevisiae* were investigated separately for immunoglobulin classes IgA and IgG using indirect immunofluorescence test (IIFT) and ELISA. The autoantibody results were based on previous IIFT analyses. All test systems were provided by EUROIMMUN.

## Results

For IgA a serum dilution of 1:100 proved to be suitable, whereas for IgG sufficient specificity was first obtained using a dilution of 1:1000. More than half of the patients with Crohn's disease exhibited antibodies against *Saccharomyces cerevisiae*. IIFT was more sensitive than ELISA, and the immunoglobulin class IgA was more specific for Crohn's disease than class IgG.

## Discussion

As shown previously, antibodies against exocrine pancreas (PAb) have a prevalence of 39% in Crohn's disease (ulcerative colitis 2%, healthy subjects 0%). Antibodies against *Saccharomyces cerevisiae* did not correlate with PAb, nor could they be neutralized with exocrine pancreas

antigen. Thus, the detection of IgA antibodies against *Saccharomyces cerevisiae* in addition to PAb increases the hit rate for the serological diagnosis of Crohn's disease to 80%. In ulcerative colitis, testing of antibodies against intestinal goblet cells (prevalence ulcerative colitis 28%, Crohn's disease 0%, healthy subjects 0%) and pANCA (prevalence ulcerative colitis 67%, Crohn's disease 7%, healthy subjects 0%) provides an 83% chance of diagnosing ulcerative colitis serologically.

## Conclusion

Using only serological techniques, establishing the diagnosis of a chronic inflammatory bowel disease is possible in 4 out of 5 patients – by analyzing antibodies against exocrine pancreas, goblet cells, granulocytes, and *Saccharomyces cerevisiae*.

Prevalence of anti- <i>Saccharomyces cerevisiae</i> antibodies	IgA		IgG		IgA or IgG	
	IIFT	ELISA	IIFT	ELISA	IIFT	ELISA
CD (n = 67, Laboratory of Dr. Stöcker)	67%	43%	64%	31%	70%	52%
CD (n = 59, Centre Hospitalier de Luxembourg)	60%	47%	65%	39%	68%	52%
UC (n = 47, Laboratory of Dr. Stöcker)	2%	0%	2%	0%	4%	0%
UC (n = 5, Centre Hospitalier de Luxembourg)	0%	0%	0%	0%	0%	0%
Blood donors (n = 50 für IIFT, n = 264 für ELISA)	2%	2%	6%	5%	8%	6%

Presented at the yearly meeting of the German Society for Clinical Chemistry and the German Society for Laboratory Medicine, Duesseldorf, Germany, November 2000