IRAN UNIVERSITY OF MEDICAL SCIENCES

Diagnostic value of auto antibodies in IBD

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Major general lab presentation in Ulcerative Colitis

	Mild	Moderate	Severe
Blood in Stool	±	+	+++
Anemia	±	+++	++
ESR (mm/hr)	<30	_	>30

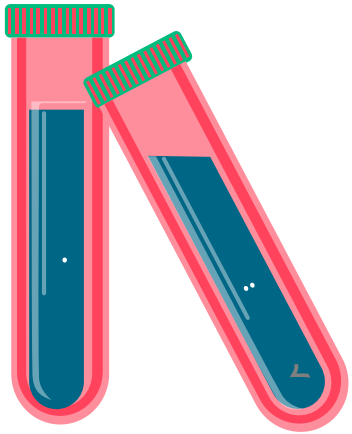
Fecal Lactoferrin (FL), Fecal Calprotectin (FC) vs UC

Both becoming part of IBD management

FL — High sensitive and specific markers for detecting intestinal inflammation

FC — Correlate well with histologic inflammations, predict relapse

p-ANCA, ASCA



Are marginally useful in making Dx of UC, CD and predicting the course of disease

Positivity %

Tests	UC	CD
p-ANCA	60 - 70	5 - 10
ASCA	10 - 15	60 - 70

p-ANCA + ASCA	Sensitivity %	Specificity %
	64	94
ANCA + ASCA	PPV %	NPV %
	94	63

Anti-Neutrophil Cytoplasmic Abs, ANCA (1982)

- Adjunct to the Dx of primary systemic small vessel vasculitides
- Best demonstrated by IFA on human neutrophils as substrate
- Measured by EIA that detect PR3, MPO

ANCA, IFA	10% of ANCA detected only
ANCA, EIA	5% of ANCA detected only

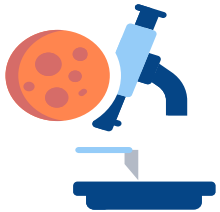
Types of ANCA and associated antigens

1. c-ANCA : Classical, cytoplasmic granular fluorescence with central interlobular accentuation (PR3)
2. c-ANCA (atypical) : Uniform fluorescence and lack of interlobular accentuation (MPO, BPI)
3. p-ANCA : Classical, perinuclear fluorescence with nuclear extension (MPO),

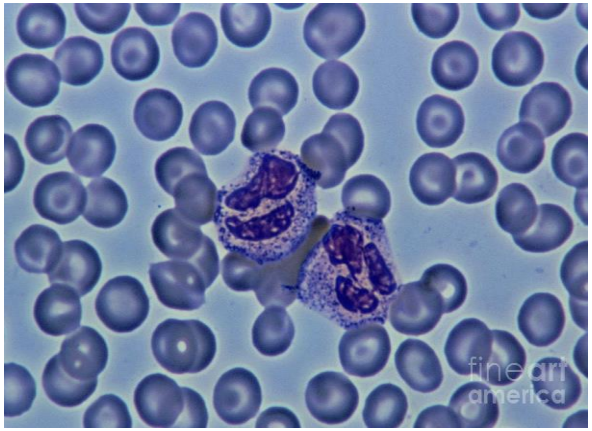
   p-ANCA without nuclear extension, BPI, GPC, EI. LactoF. Lyzo.

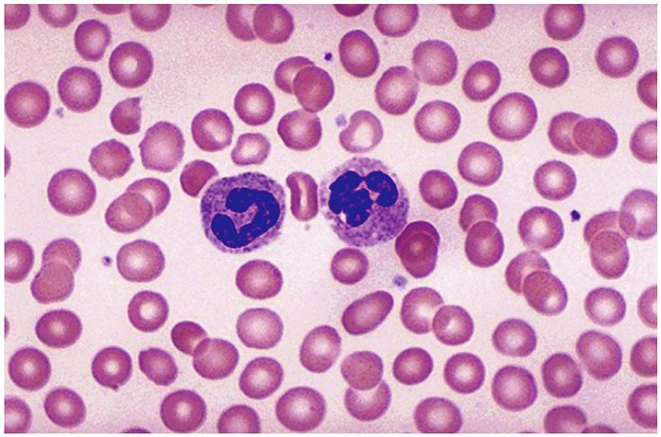
   GS-ANA : granulocyte specific ANA, classified as p-ANCA

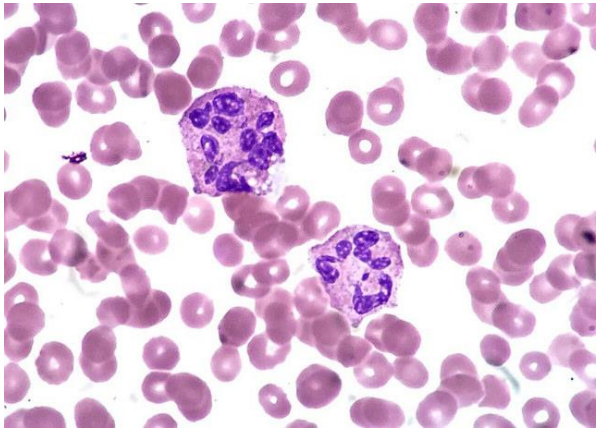
4. Atypical ANCA (X-ANCA) : C + P, very uncommon

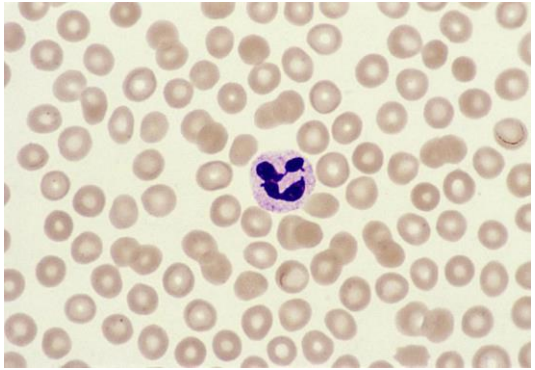


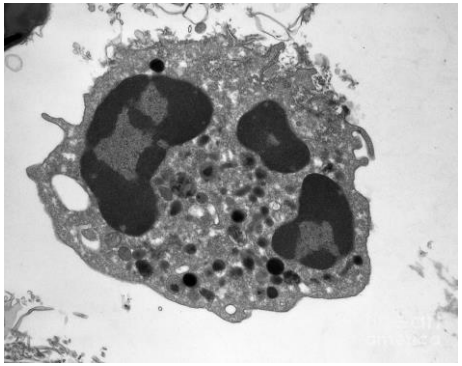
Neutrophil

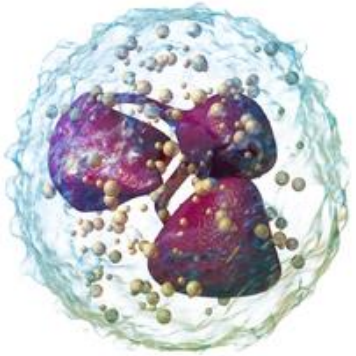




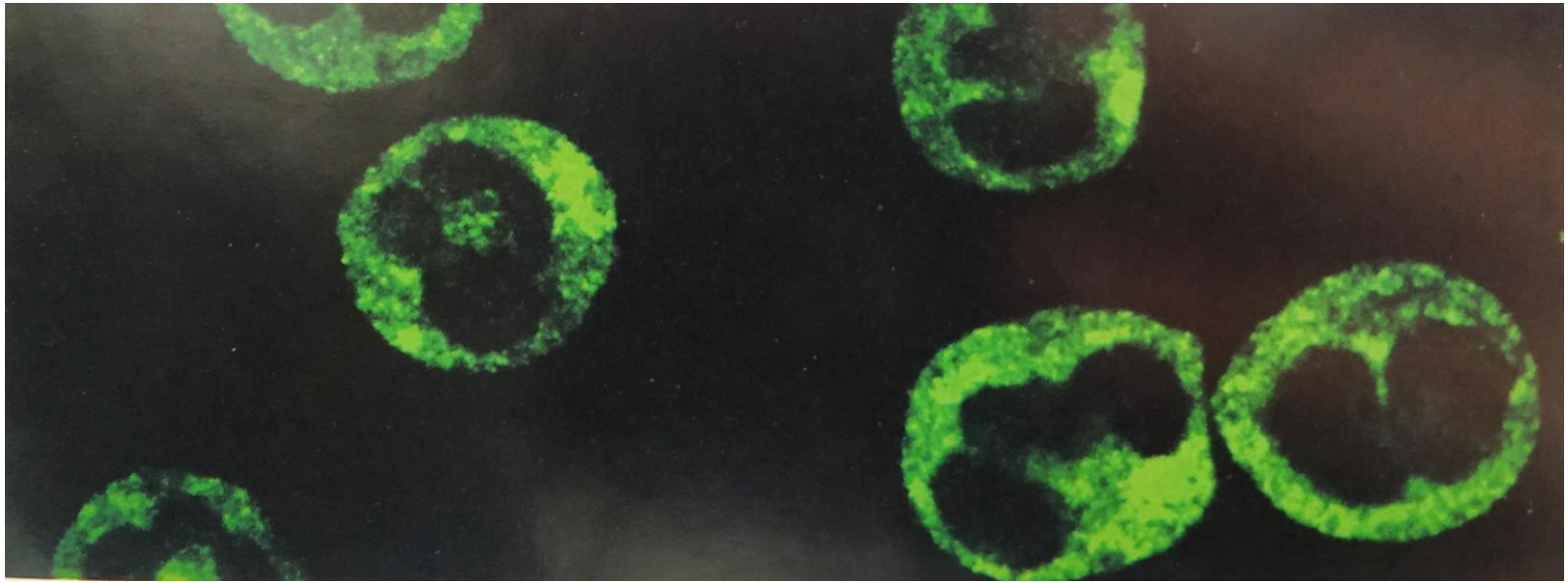




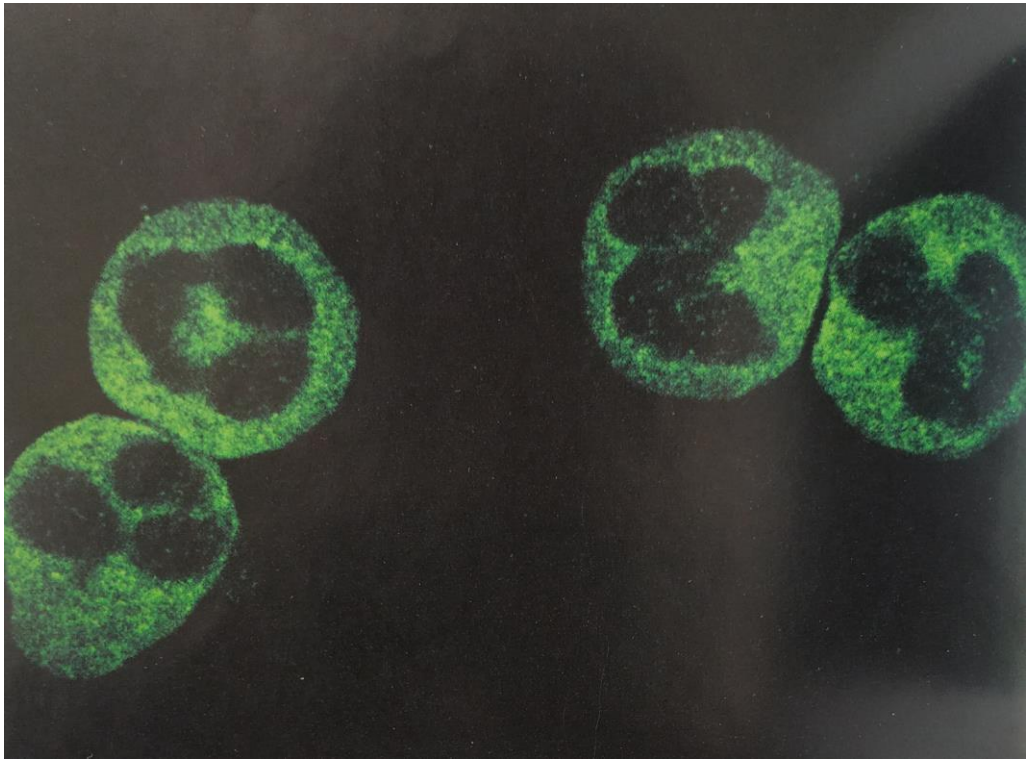




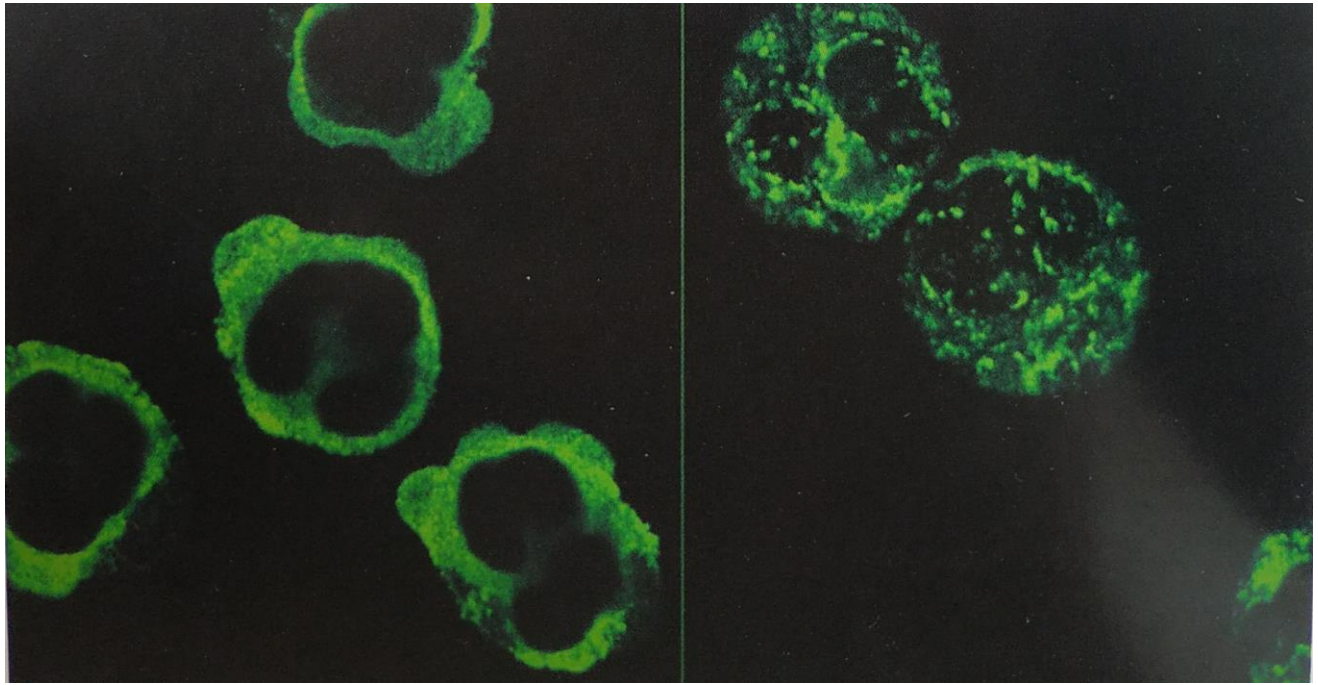
c-ANCA pattern with IFA



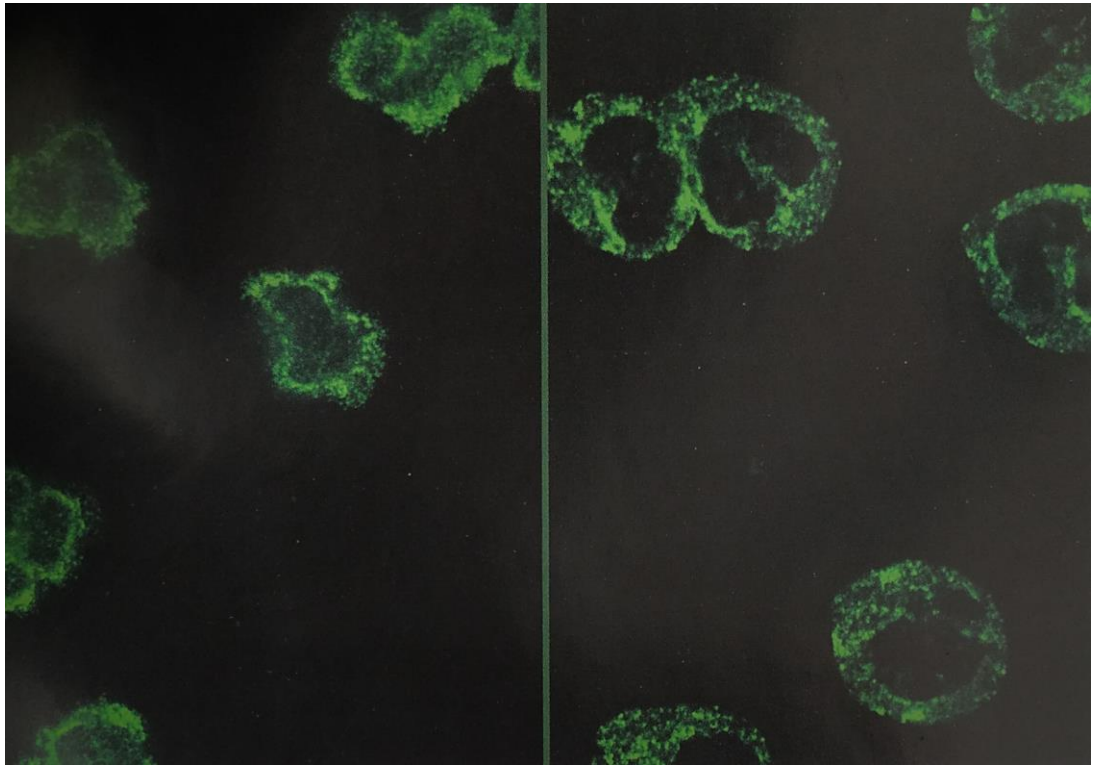
Atypical c-ANCA pattern with IFA



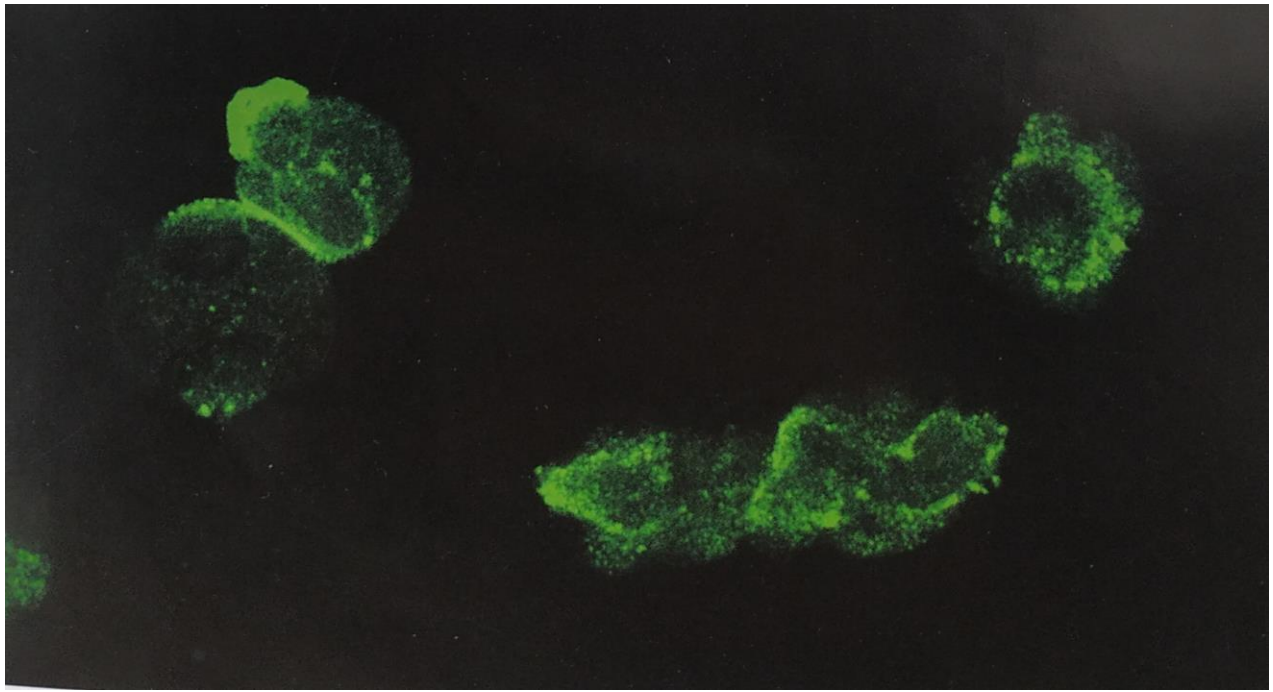
p-ANCA with nuclear extension vs c-ANCA



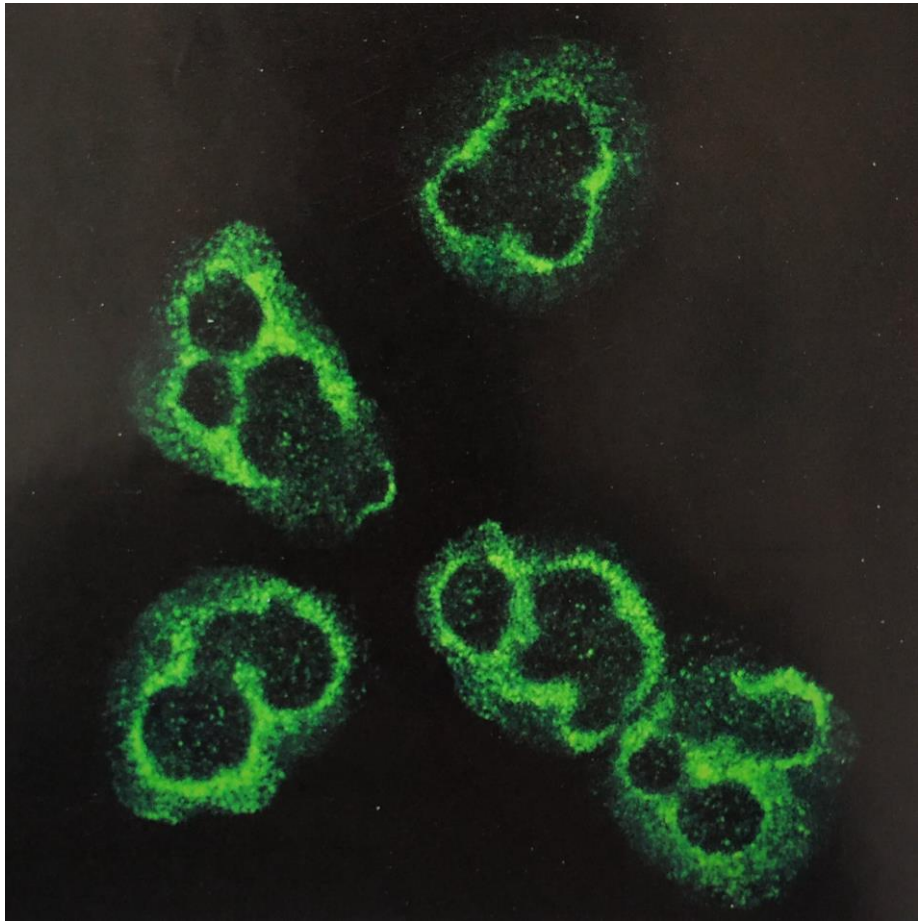
P-ANCA without nuclear extension vs c-ANCA



GS ANA



X-ANCA



Neutrophil patterns	Ethanol	Formalin	HEp-2
c-ANCA	C	Granular, C	-
p-ANCA	N, P	C	-
GS-ANA	N, P	Reduced	-
Atypical ANCA	C, P	C	-
p-ANCA + ANA	N, P	C	N
ANA	N, P	Reduced	N

The international consensus statement recommended that all ANCA+ sera showing p or c should be tested for MPO, PR3 by EIA

Technical considerations

Optimum serum dilution 1/20

Polyclonal IgG, HC conjugate

Evans blue with care

Clinical correlation With ANCA patterns

Disease	ANCA⁺ percentage	
	C	P
WG Poly angitic PAN		
UC CD	- -	60 30
RA SLE PBC		

ASCA

1. Anti saccharomyces cerevisiae, have been selectively elevated in CD
2. Particularly in determinate colitis or patient on whom it would be difficult to perform endoscopy and biopsy e.g. children.
3. ASCA directed on oligomannoside of bread and beer yeast, higher titer in CD vs UC.
4. IgG, IgA classes of ASCA are useful

	CD	UC	Healthy individuals
ASCA-G	50 - 80 %	2 - 14 %	1 - 7 %
ASCA-A	35 - 50 %	-	-

EIA most frequently used method, with Ag of whole yeast extract to highly purified S.C oligomannoside


Thank you