

## Inflammatory Bowel Disease Panel

### UC P-ANCA (Atypical ANCA) and Crohn's Disease Related Marker Antibody, ASCA (Anti-Saccharomyces Cerevisiae, IgG & IgA Isotypes)

The combined ASCA and UC P-ANCA (atypical ANCA) [Inflammatory Bowel Disease Panel – IBD] has substantial serologic value in discriminating IBD versus other clinical diarrheal disorders and in separating UC from Crohn's Disease (CD).

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|---|--|
| <b>Typical Crohn's Disease Pattern</b>    | <b>Positive ASCA, IgG &amp; IgA<br/>Negative UC P-ANCA (Atypical ANCA)</b> |
| <b>Typical Ulcerative Colitis Pattern</b> | <b>Positive UC P-ANCA (Atypical ANCA)<br/>Negative ASCA</b>                |

#### Ulcerative Colitis P-ANCA (Atypical ANCA)

- The atypical P-ANCA is seen in 60 - 80% of patients with UC.
- 10 – 15% of CD patients are UC P-ANCA (atypical ANCA) positive and resemble UC clinically.
- Atypical P-ANCA is also seen in 65 – 80% of patients with Sclerosing Cholangitis and 50 – 80% of Type I Autoimmune Hepatitis patients.
- UC P-ANCA (atypical ANCA) is associated with acute and chronic pouchitis following colectomy in UC and is also associated with treatment resistant ulcerative colitis.
- P-ANCA not related to UC can be seen in Necrotizing Vasculitis but is positive on both alcohol and formalin fixed neutrophil slides and caused by anti-Myeloperoxidase Ab (anti-MPO).
- Atypical P-ANCA on alcohol fixed neutrophils display a “very perinuclear” pattern. Staining on formalin fixed neutrophil slides causes the UC ANCA pattern to disappear or convert to a weak patchy non-granular staining pattern.
- Positive ANAs can produce a pattern resembling P-ANCA on alcohol fixed neutrophil slides but are negative on formalin fixed neutrophils. Therefore, an ANA will be performed (at no additional cost), if the P-ANCA is positive on alcohol fixed slides to help clarify this problem.

#### Anti-Saccharomyces Cerevisiae, IgG & IgA Isotypes (ASCA)

- The presence of both IgG and IgA isotypes are highly specific for CD, approaching 100%.
- 50 – 80% of patients with CD have IgG ASCA.
- 35 – 50% of CD patients have IgA ASCA.
- The sensitivity for IgG & IgA ASCA together is 50 – 60%.
- 2 – 14% of UC patients are ASCA positive.
- ASCA is more common in 1<sup>st</sup> degree relatives of CD patients.
- A negative ASCA or negative UC atypical P-ANCA does not exclude the diagnoses of UC or CD respectively.
- The value of these tests in indeterminate colitis is being evaluated.

## PERFORMANCE OF INOVA ASCA ASSAY USED BY RDL

### Normal Range

A combined panel of 358 specimens collected from asymptomatic, healthy individuals in California, New York, Austria and Belgium was tested with the QUANT Lite™ ASCA IgG and IgA ELISA kits. For the 4 regional populations the apparent specificity ranged from 92 to 100% (mean 95.3%) for the QUANTA Lite™ ASCA IgG and 97 to 100% (mean 98.9%) for the Quanta Lite™ ASCA IgA ELISA kits. None (0/358) of these specimens were positive for both ASCA IgG and ASCA IgA antibodies.

### Sensitivity

Clinically-defined specimens from Crohn's disease patients (213), ulcerative colitis patients (127), and healthy controls (70) were tested by the QUANTA Lite™ ASCA IgG and IgA ELISA kits. Of 76 patients who were positive for both ASCA IgG and IgA antibodies, all but 1 were known Crohn's disease patients. None of the normal controls and only 1 of the ulcerative colitis specimens were both ASCA IgG and IgA positive.

**Table 1: Quanta Lite™ ASCA IgG and IgA ELISA Results on Combined Specimens from Clinical Sites**  
**QUANTA Lite ASCA ELISA Results**

| <b>Clinical Group</b> | <b>N=</b> | <b>IgG Pos.</b> | <b>IgA Pos.</b> | <b>IgG or IgA Pos.</b> | <b>IgG and IgA Pos.</b> |
|-----------------------|-----------|-----------------|-----------------|------------------------|-------------------------|
| Crohn's disease       | 213       | 61.6% (127/206) | 40.6% (82/202)  | 66.0% (134/203)        | 36.9% (75/203)          |
| Ulcerative colitis    | 127       | 12.2% (15/123)  | 0.8% (1/123)    | 12.4% (15/121)         | 0.8% (1/121)            |
| Healthy controls      | 70        | 1.5% (1/65)     | 1.5% (1/67)     | 3.1 % (2/64)           | 0% (0/65)               |

Note: equivocal results excluded from calculations