

CLINICAL SPECIFICATIONS

CALPROTECTIN (saliva)

Function:

Calprotectin is an abundant neutrophil protein. It belongs to the family of S100 calcium binding proteins. Calprotectin is released from activated leukocytes during activation or cell death leading to increased concentrations in plasma, serum, spinal fluid, synovial fluid, urine, saliva or stools. As an antimicrobial, Calprotectin is increased during bacterial infections or inflammation in relevant organs.

Salivary Levels Associated With:

Oral Candidiasis^{3, 6}
Porphyromonas gingivalis infection⁴
 Sjögren's syndrome^{1, 6}
 Decreased in HIV infection⁶

Known Cross-Reactions:

Clinical Significance:

The detection of salivary antibodies to Calprotectin is an indication of gastrointestinal inflammation. Once Calprotectin is induced by intestinal lipopolysaccharide (LPS) endotoxins, it takes part in major biological processes like signal transduction, tumorigenesis, apoptosis, cell homeostasis and inflammation.² If the gastrointestinal inflammation leads to antigenic intestinal permeability, LPS can elicit a systemic immune response leading to increased serum levels and antibodies to Calprotectin. Serum Calprotectin has been seen in systemic inflammatory conditions.⁵

Suggested Reading:

1. Brun, et al. Sjögren's syndrome in inflammatory rheumatic diseases: analysis of the leukocyte protein calprotectin in plasma and saliva. Scand J Rheumatol, 1994; 23(3):114-118.
2. Dhas, et al. Role of Calprotectin in Infection and Inflammation. Curr Pediatr Res, 2012; 16(2): 83-94.
3. Kleinegger, et al. A comparison of salivary calprotectin levels in subjects with and without oral candidiasis. Oral Surg Oral Med Oral Pathol Oral Radiol Endod, 2001; 92(1):62-67.
4. Nisapakultorn, et al. Calprotectin expression in vitro by oral epithelial cells confers resistance to infection by *Porphyromonas gingivalis*. Infect Immun, 2001; 69(7):4242-4247.
5. Stříž and Trebichavský. Calprotectin - a pleiotropic molecule in acute and chronic inflammation. Physiol Res, 2004; 53(3):245-253.
6. Sweet, et al. Salivary calprotectin levels are raised in patients with oral candidiasis or Sjögren's syndrome but decreased by HIV infection. Oral Microbiol Immunol, 2001; 16(2):119-123.