



Gastroenterology



bringing innate immunity to the **next level**

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Irritable bowel syndrome (IBS), irritable bowel disease (IBD) and colorectal cancer are three examples of diseases which are intensively monitored and investigated not only clinically, but also in the research field. The two most common inflammatory bowel diseases are Crohn's disease (CD) and ulcerative colitis (UC): diseases which affect millions of people. Hycult Biotech offers several tools in the research field to enable better disease understanding and monitoring.

Intestinal damage

Intestinal FABP (I-FABP) is specifically localized in the epithelium cells of the small bowel. Normally, I-FABP is undetectable in serum. Due to its small size, FABP leaks rapidly out of ischemically damaged necrotic cells leading to a rise in serum levels. Many observations indicate that I-FABP is a useful biochemical marker for intestinal cell damage both in vivo and in vitro.

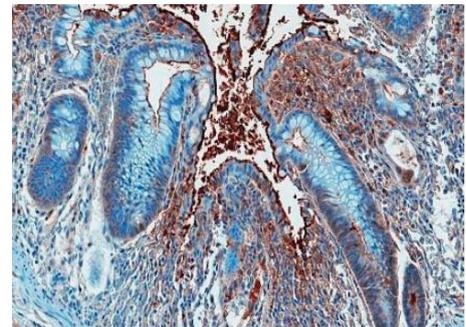
Intestinal barrier

The intestinal barrier ensures a barrier between the body and luminal environment. If the function is compromised inflammation can be exacerbated by chronic endotoxin exposure. Endotoxin, especially the Gram-negative-derived lipopolysaccharide (LPS) from gut microbiota, induces inflammation in humans. LPS inflammatory signaling is mediated by its translocation by lipopolysaccharide-binding protein (LBP) and membrane bound or soluble CD14 (sCD14) to Toll-like receptor 4 (TLR4)/MD2 complex. During intestinal wall inflammation, granulocytes transmigrate through the intestinal wall. One of the biomarkers which is detectable due to this is calprotectin. Calprotectin is measurable in several sample types. Several investigations report that fecal Calprotectin is significantly increased in intestinal diseases such as IBD, Crohn's disease, ulcerative colitis and colon cancer.

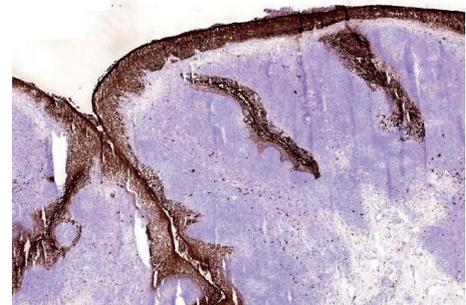
Looking for specific biomarkers?

Have a look at our website or contact us or your distributor to find out which products are available in the field of gastroenterology. Our products are available in custom formulations as well as bulk quantities: do not hesitate to ask us about the possibilities. Visit www.hycultbiotech.com or contact us via support@hycultbiotech.com.

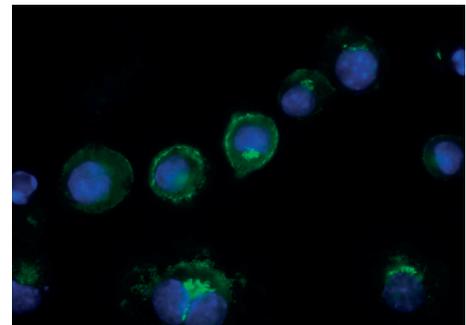
ELISA kit	Cat. #
LAL assay	HIT302
LBP, Human	HK315
sCD14, Human	HK320
Calprotectin, Human	HK379
Calprotectin, Human, rapid assay	HK382
I-FABP, Human	HK406
EndoCAB®, IgA, IgG and/or IgM, Human	HK504



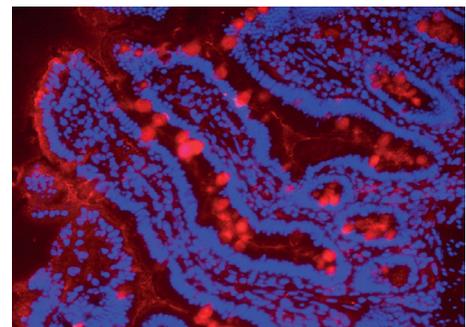
IHC-P: analysis of lipopolysaccharide core in paraffin embedded rhesus macaques colon tissue using mAb WN1 222-5 (Cat. # HM1066). Images are kindly provided by Dr. Jacob D. Estes, AIDS & Cancer Virus Program, SAICFrederick Inc., Frederick National Laboratory for Cancer Research.



IHC-F: Staining of squamous epithelia of frozen tonsil section with calprotectin antibody HM2156 (Dilution used was 1:100).



IF: RAW264.7 cells were grown on coverslips, fixed with 1% paraformaldehyde and blocked with BSA. As primary antibody, HM1060 was used at 2 µg/ml in PBS/BSA 3%.



ZO-1 in human colon. Immunofluorescence with polyclonal antibody (Cat. # HP9056).