



β -Defensin 2 (ELISA)

β -defensin-2 deficiency responsible for diminished barrier function?

The β -defensins are an integral part of the congenital immune system and contribute with their antimicrobial effect to the barrier function of the intestinal epithelial cells.

Defensins exert a variable degree of antimicrobial activity against bacteria, fungi, and some enveloped viruses. Vertebrate defensins are classified as α - or β -defensins, based on their pattern of disulfide bridges. Nine human defensins of epithelial origin have been found, three of them being β -defensins (HBD-1, -2 and -3). The expression of β -Defensins are induced by the pro-inflammatory cytokines and also through microorganisms (e.g. E. coli, H. pylori or P. aeruginosa).

A decreased β -defensin-2 expression can, for example, be observed in the intestinal mucous of patients with Crohn's disease. The defense system of the mucous membrane is therefore restricted and allows an increased invasion of bacteria, which could possibly lead to a typical infection in Crohn's disease patients.

Whether the decreased β -defensin-2 expression could even play a role in the development of Crohn's disease is currently being researched. As is the possibility that it is the probiotic bacterium, which produces β -defensin.

Reduced β -defensin expression

- ▶ with Crohn's disease (HBD-2)

Increased β -defensin expression

- ▶ with Colitis ulcerosa (HBD-2)

Our ELISA:

Sample volume	100 μ l
Matrix	Stool
Standards	0,1 – 3 ng/ml
Incubation time	3 x 1 h, 15 min
Test principle	ELISA
Tests	96
Art. No. β -Defensin	K 6500

Indications

- Inflammatory bowel diseases (IBD)
- Research of intestinal barrier function

References concerning β -defensin 2 expression:

Wehkamp J et al. (2003) J Clin Pathol 56: 352-357
Schmid M et al. (2004) Z Gastro 42 : 333-338
Harder J et al. (2001) J Biol Chem 276 : 5705-5713

Distributed by: