Colon Cancer?



ELISA detection of

- hemoglobin
- hemoglobin/haptoglobin complex

Detection of fecal occult blood for colon cancer prevention

- ► Highly sensitive ELISAs: *IDK*® **Hb** and *IDK*® **Hb/Hp complex**
- Both assays easy to combine
- Different versions for flexible use



Reliable colon cancer prevention

Detection of fecal occult blood with: *IDK*® Hb ELISA & *IDK*® Hb/Hp complex ELISA

The combination of the two parameters **hemoglobin (Hb)** and **hemoglobin/haptoglobin complex (Hb/Hp complex)** increases the detection rate of colorectal carcinomas and adenomas when compared to the respective single parameters. The clinical specificity of the combined parameters is 96 % with a sensitivity of 73 % for large adenomas and with a sensitivity of 83 % for colorectal carcinoma (Sieg et al., 1999).

Our ELISAs are easy to combine and offer a number of advantages:

- IDK® Hb and IDK® Hb/Hp complex from 1 stool sample tube hygienic, no stool weighing necessary only 1 sample tube for the collection, storage, and preparation of fecal samples
- Only 1 dilution with IDK Extract®

 The sample dilution for both assays, the hemoglobin and the hemoglobin/haptoglobin complex ELISA, is done in one extraction step with new universal extraction buffer IDK Extract®
- Exact recovery rate
 optimized extraction buffer
- Identical cut-offs for both ELISAs 2 μg/g stool for maximum sensitivity
- 1-point calibration
 for cost-efficient test runs
- Flexible handling
 - automatable (e.g. DSX, Tecan, Personal Lab, BEP3 / BEP2000)
 - manual use



Clinical validation

Hemoglobin ELISA is superior to guaiac based test

	Guaiac test	Hemoglobin ELISA	
Sensitivity [%]			
Adenoma	5.56	22.2	
Carcinoma	37.0	77.7	
Carcinoma & adenoma	29.1	63.8	
Specificity [%]			
Carcinoma & adenoma	90.2	96.3	
Positive Predictive Value [%]			
Adenoma	5.9	40.0	
Carcinoma	55.6	87.5	
Carcinoma & adenoma	56.7	88.4	
Negative Predictive Value [%]			
Adenoma	89.7	91.9	
Carcinoma	81.3	92.9	
Carcinoma & adenoma	74.4	85.9	

Table excerpt from Höpffner et al. (2006)

▶ Best clinical reliability of the hemoglobin/haptoglobin complex ELISA

	hemoglobin/haptoglobin complex ELISA
Sensitivity [%]	
Small adenoma	44
Large adenoma & colorectal carcinoma	81
Specifity [%]	
Small adenoma	91
Large adenoma & colorectal carcinoma	91

Data from Schirrmacher et al. (2003)

Combined sensitivity and specifity of Hb and Hb/Hp complex

	Hb	Hb/Hp complex	Hb <u>and</u> Hb/Hp complex
Sensitivity [%]			
Carcinoma	87	83	87
Large adenoma	54	73	73
Specifity [%]			
Carcinoma & large adenoma	99	96	96

Table excerpt from Sieg et al. (1999)

Our products for colon cancer prevention:

- ► IDK® Hemoglobin ELISA (Cat. No. K 7816D)
- ► IDK® Hemoglobin ELISA, 1-point-calibration (Cat. No. K 7836D)
- ► IDK® Hemoglobin/haptoglobin complex ELISA (Cat. No. K 7817D)
- ▶ IDK® Hb/Hp complex ELISA, 1-point-calibration (Cat. No. K 7837D)
- ➤ Stool sample preparation system (unfilled) (Cat. No. K 6998SAS)

 Convenient stool sample tube with dipstick for quick and hygienic stool extraction
- ▶ Stool sample preparation system filled with extraction buffer IDK Extract® (Cat. No. K 6999)

Literature:

Seergeva NS, Marshutina NV, Solokhina MP, Zenkina EV (2010) The study of new fecal ELISA tests for active evaluation of colorectal cancer.

Hoepffner N, Shastri YM, Hanisch E, Rösch W, Mössner J, Caspary WF (2006) Comparative evaluation of a new bedside fecal occult blood test in a prospective multicentre study. *Aliment Pharmacol Ther* 23:145-54

Schirrmacher S et al. (2003) Fecal Hemoglobin-haptoglobin Complex Tests and Fecal Occult Blood Tests in Diagnosis of Inflammatory Bowel Disease, Colorectal Cancer and Adenoma. *Abstract P4.54 of EUREGIO* Congress of Clinical Chemistry and Laboratory Medicine, 08.-10.10.2003, Aachen

Trojan J, Povse N, Schroder O, Stein J (2002) A new immunological test strip device for the rapid, qualitative detection of fecal occult blood. *Z Gastroenterol* 40(11):921-24

Sieg A, Thoms C, Lüthgens K, John MR, Schmidt-Gayk H (1999) Detection of colorectial neoplasms by the highly sensitive hemoglobin-haptoglobin complex in feces. Int J Colorectal Dis 14: 267-271

