

Parasite diagnostics

Rapid and reliable detection by real-time PCR

- RIDA® GENE Parasitic Stool Panel
- RIDA® GENE Parasitic Stool Panel I
- RIDA® GENE Parasitic Stool Panel II
- RIDA® GENE Entamoeba histolytica
- RIDA® GENE Dientamoeba fragilis

Parasitic gastroenteritis – sensitive and specific detection of major protozoans by molecular diagnostics

Giardia lamblia, *Cryptosporidium* spp., *Entamoeba histolytica* and *Dientamoeba fragilis* are the most important diarrhea-causing protozoa.

Giardia lamblia (synonym *G. intestinalis* or *G. duodenales*) infections occur in 2 % of all adults and 6 - 8 % of all children in developed countries and about a third of all people in developing countries are infected with this protozoan.¹ The CDC estimates about 77,000 cases of giardiasis each year in the U.S.²

Cryptosporidium parvum is one of several species of the genus *Cryptosporidium*. Besides *C. parvum*, also *C. hominis* most commonly causes cryptosporidiosis in humans.³ However, also infections by other *Cryptosporidium* spp. such as *C. felis*, *C. meleagridis*, *C. canis*, and *C. muris* may lead to clinical symptoms. Each year estimated 748,000 cases of cryptosporidiosis occur in the US.^{3,4}

Entamoeba histolytica is the only human pathogenic species of the genus *Entamoeba* and the causative agent of amoebiasis. In 10 % of *Entamoeba histolytica* cases the infection leads to amoebic colitis and on rare occasions to extraintestinal amoebiasis, mostly to the liver (amoebic liver abscess). The WHO estimates that about 50 million people worldwide suffer from amoebiasis each year, resulting in 100,000 deaths each year.⁵

Dientamoeba fragilis is distributed worldwide, however it is also one of the most underestimated diarrhea-causing protozoa. Recent studies demonstrated the pathogenic potential and implicated it as a common cause of gastrointestinal disease. The prevalence of *Dientamoeba fragilis* varies from 0.3 % to 52 % and often exceeds that of *Giardia lamblia*.⁶

RIDA®GENE Parasitic Stool Panel Art. No. PG1705



- Real-time multiplex PCR
- Differentiation of 4 major protozoans
- Melting curve analysis for *Dientamoeba fragilis*

RIDA®GENE Parasitic Stool Panel I Art. No. PG1715



- 5-plex real-time multiplex PCR
- Simultaneous detection and differentiation of *Giardia lamblia*, *Entamoeba histolytica*, *Cryptosporidium* spp. and *Dientamoeba fragilis* by Taqman hydrolysis probes

RIDA®GENE Parasitic Stool Panel II Art. No. PG1725


- Real-time multiplex PCR
- Differentiation of 3 major protozoans:
Giardia lamblia, *Entamoeba histolytica* and *Cryptosporidium* spp.

RIDA®GENE Entamoeba histolytica Art. No. PG1735


- Real-time PCR
- Specific detection of *Entamoeba histolytica*
- Validated for stool and liver abscess puncture

RIDA®GENE Dientamoeba fragilis Art. No. PG1745


- Real-time PCR
- Specific detection of *Dientamoeba fragilis*

¹ Centers for Disease Control and Prevention 2011. Giardia Epidemiology & Risk Factors, <http://www.cdc.gov/parasites/giardia/epi.html>. Aufgerufen am 10.07.2012.

² Food and Drug Administration (FDA) 2011. Bad Bug Book 2nd Edition. <http://www.fda.gov/food/foodsafety/foodborneillness/foodborneillnessfoodbornepathogensnaturaltoxins/badbugbook/default.html>. Aufgerufen am 10.07.2012.

³ Centers for Disease Control and Prevention. <http://www.cdc.gov/parasites/crypto/biology.html>. Accessed 07.03.2014.

⁴ Leitch GJ and Qing He. Cryptosporidiosis - an overview. J Biomed Res. 2012, 25(1): 1-16.

⁵ Fotedar R et al. Laboratory diagnostic techniques for Entamoeba species. Clin Microbiol Rev. 2007, 20(3):511-532.

⁶ Stark D et al. A review of the clinical presentation of dientamoebiasis. Am J Trop Med Hyg. 2010, 82(4):614-619.

Baratt JLN et al. A review of Dientamoeba fragilis carriage in humans: several reasons why this organism should be considered in the diagnosis of gastrointestinal illness. Gut Microbes. 2011, 2(1):3-12.



RIDA® GENE real-time PCR for parasitic gastrointestinal infections – detection overview

	RIDA® GENE Parasitic Stool Panel	RIDA® GENE Parasitic Stool Panel I	RIDA® GENE Parasitic Stool Panel II	RIDA® GENE Entamoeba histolytica	RIDA® GENE Dientamoeba fragilis
Detection	<i>Dientamoeba fragilis</i> (Melting curve)	<i>Dientamoeba fragilis</i>			
	<i>Giardia lamblia</i>	<i>Giardia lamblia</i>	<i>Giardia lamblia</i>	<i>Entamoeba histolytica</i>	<i>Dientamoeba fragilis</i>
	<i>Entamoeba histolytica</i>	<i>Entamoeba histolytica</i>	<i>Entamoeba histolytica</i>		
	<i>Cryptosporidium</i> spp.	<i>Cryptosporidium</i> spp.	<i>Cryptosporidium</i> spp.		
Thermal profile	• DNA profile				
Time to result	~ 60 - 90 min*				
Controls	<ul style="list-style-type: none"> • Positive control • Negative control • Internal control DNA 				

* Dependent on the instrument used.

Ordering information

Product	Description	Tests	Matrix	Art. No.
RIDA® GENE	Real-time PCR			
RIDA® GENE Parasitic Stool Panel	Real-time multiplex PCR for the direct qualitative detection and differentiation of <i>Giardia lamblia</i> , <i>Entamoeba histolytica</i> , <i>Cryptosporidium</i> spp. and <i>Dientamoeba fragilis</i> (melting curve) in human stool samples	100	Stool	PG1705
RIDA® GENE Parasitic Stool Panel I	Real-time multiplex PCR for the direct qualitative detection and differentiation of <i>Giardia lamblia</i> , <i>Entamoeba histolytica</i> , <i>Cryptosporidium</i> spp. and <i>Dientamoeba fragilis</i> in human stool samples	100	Stool	PG1715
RIDA® GENE Parasitic Stool Panel II	Real-time multiplex PCR for the direct qualitative detection and differentiation of <i>Giardia lamblia</i> , <i>Entamoeba histolytica</i> and <i>Cryptosporidium</i> spp. in human stool samples	100	Stool	PG1725
RIDA® GENE Entamoeba histolytica	Real-time PCR for the direct qualitative detection of <i>Entamoeba histolytica</i> in human stool samples and liver abscess puncture	100	Stool/ liver abscess puncture	PG1735
RIDA® GENE Dientamoeba fragilis	Real-time PCR for the direct qualitative detection of <i>Dientamoeba fragilis</i> in human stool samples	100	Stool	PG1745



For detailed information on parasitic gastroenteritis follow us