

Giardia intestinalis RT-PCR Detection Kit

Norgen's *Giardia intestinalis* RT-PCR Detection Kit constitutes a complete, ready-to-use system for the isolation and detection of *Giardia intestinalis* using end-point RT-PCR. The kit first allows for the isolation of total RNA from water samples using a convenient spin-column. The RNA is isolated free from PCR inhibitors, and can then be used as the template in an RT-PCR reaction for detection of *Giardia intestinalis* using the provided *Giardia* Master Mix. The *Giardia* Master Mix contains reagents and enzymes for the specific amplification of a 238 bp region of the viroid genome. In addition, Norgen's *Giardia intestinalis* RT-PCR Detection Kit contains a second Mastermix, the Control 2X RT-PCR Master Mix, which can be used to identify possible PCR inhibition and/or inadequate isolation via a separate RT-PCR reaction with the use of the provided *PCR control (PCRC)* or *Isolation Control (IsoC)*, respectively. The kit is designed to allow for the testing of 24 samples and is ideal for use in quality control for water samples, as well as for surveys.



Giardiasis is a disease of the small bowel caused by the protozoan parasite *Giardia intestinalis* (syn. *duodenalis* or *lamblia*). *Giardia* is one of the most common intestinal parasites in the world, and occurs at very high prevalence rates in places with poor water sanitation. Individuals become infected through ingesting or coming into contact with contaminated water, food or soil. It can also be spread through the faecal-oral route due to poor hygiene practices, which makes it common in day-care centers. *G. intestinalis* lives inside the intestines of infected humans or other animals including cats, dogs, birds, cows, beaver and deer. Symptoms of infection include diarrhea, malaise, excessive gas, bloating, nausea, diminished interest in food, possible vomiting and weight loss.

Giardia intestinalis RT-PCR Detection Kit Benefits

Kit for both Isolation and Detection	The <i>Giardia intestinalis</i> RT-PCR Detection Kit is a complete kit that contains: 1) all the required components to allow for optimized isolation of <i>Giardia</i> RNA (user must purchase Filter Columns separately) and 2) <i>Giardia</i> Detection Master Mix to allow for the optimized amplification and detection of the RNA and 3) RT-PCR Control Master Mix to control for possible PCR inhibition and/or inadequate isolations.
High Sensitivity and Specificity	The limit of detection is 100 copies
Isolate high quality RNA	RNA is isolated free from inhibitors and can be used directly in the downstream RT-PCR assay.
Rapid Procedure	Isolate, amplify and detect <i>Giardia intestinalis</i> under 3 hours.
Includes controls to identify PCR inhibition and problems with RNA isolation	Kit contains a second Mastermix, the RT-PCR Control Master Mix, which can be used to identify possible PCR inhibition and/or inadequate isolation via a separate RT-PCR reaction with the use of the provided PCR control and Isolation Control respectively.
Ideal for use in a number of different applications	Ideal for use in quality control for water samples, as well as for surveys.

Giardia intestinalis RT-PCR Detection Kit

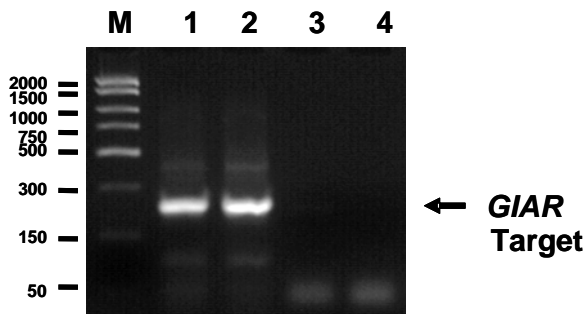


Figure 1: Detection of *Giardia* using the *Giardia intestinalis* RT-PCR Detection Kit. A representative 1X TAE 1.5% agarose gel showing the amplification of GIAR positive (lane 1 and 2) negative (lane 3 and 4) controls. The size of the GIAR target amplicon corresponds to 238 bp as represented by the provided DNA Marker (M).

Giardia intestinalis RT-PCR Detection Kit Contents:

1. Lysis Solution
2. Wash Solution
3. Elution Buffer
4. Bead Tubes
5. Mini Spin Columns
6. Collection Tubes
7. Elution tubes (1.7 mL)
8. GIAR 2x RT-PCR Master Mix
9. Control 2x RT-PCR Master Mix
10. *Isolation Control (IsoC)*
11. *GIAR Positive Control (PosC)*
12. Nuclease-Free Water
13. Norgen's DNA Marker
14. Product Insert

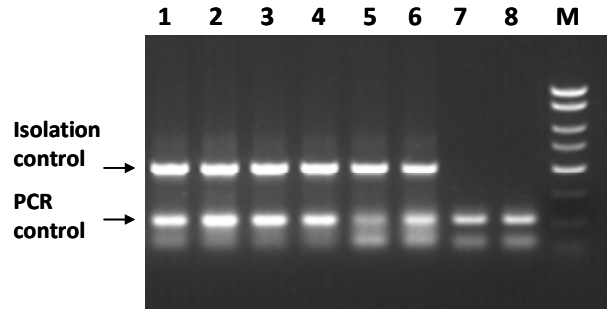


Figure 2: Detection of Isolation and PCR Control. A representative 1X TAE 1.5% agarose gel showing the amplification of **Isolation Control** and **PCR Control** under different conditions using the **Control 2X RT-PCR Mastermix**. The size of the Isolation Control amplicon and PCR Control amplicon correspond to 499 bp and 150 bp, respectively, as represented by the provided DNA Marker (M). Lanes 1 to 6 showed detection of both Isolation Control and PCR Control, suggesting that the RNA isolation as well as the RT-PCR reaction was successful. Lane 7 and 8 showed only the detection of PCR Control suggesting that while the RT-PCR was successful, the isolation failed to recover even the spiked-in Isolation control.

Storage Conditions

All buffers should be kept tightly sealed and stored at room temperature (15-25°C). Buffers can be stored for up to 1 year without showing any reduction in performance. The GIAR 2x RT-PCR Master Mix, Control 2X RT-PCR Master Mix, GIAR Positive Control (PosC) and the Isolation Control (IsoC) should be kept tightly sealed and stored at -20°C for up to 1 year without showing any reduction in performance. Repeated thawing and freezing (> 2 x) should be avoided, as this may reduce the sensitivity. If the reagents are to be used only intermittently they should be frozen in aliquots.

Cat #	Description	Quantity
43800	<i>Giardia intestinalis</i> RT-PCR Detection Kit	24 tests