Current Issue
Browse Issues
Search
About this Journal
Instruction to Authors
Online Submission
Subscription
Contact Us
RSS Feed

Acta Medica Iranica
2009;47(4) : 34-39

Isolation of DNA from A Single Helminth Using New Developed Kit in Iran and Its PCR Analysis

P Shayan, H Borji, A Eslami, S Zakeri

Abstract:

Background: Nematodes are among the most common and important parasites of man and animal. DNA of a single worm can be used for several purposes, such as identification to the species, subspecies, strain and antihelmenthic resistance. DNA extraction from a single small worm using traditional methods such as phenol extraction technique faces serious prob¬lems. Methods: DNA from 20 single Haemonchus contortus was isolated using DNA isolation kit newly designed in Iran by the Re¬search Unit of Molecular Biological System Transfer (MBST) based on the specific binding of DNA to the carrier. The ge¬nomic DNA was amplified using specific primers derived from β-tubulin isotype 1 in PCR. The specificity of the PCR prod¬ucts was determined using semi-nested PCR technique. Specific PCR-product from β-tubulin gene could be amplified with 1 ng, 100 pg and 10 pg DNA. Results: The used DNA extraction method was safe, with high quality and quantity, fast, easy to handle and not costly for ge¬netic analysis of even a single small worm. Conclusion: The Iran produced DNA extraction Kit is grounded on a selective binding of nucleic acids to a silica-based mem¬brane and is recommended for the isolation of DNA from even small amount of biological materials.

Keywords:

Genomic DNA ، Semi-nested PCR

TUMS ID: 3633

Full Text HTML Full Text PDF 169 KB

top