

external link (opens in a new window)

Search Sources Analytics Alerts My list Settings Live Chat Help Tutorials

Quick Search

Search

Back to results | < Previous 101 of 186 Next >



View at publisher | Download Export Print E-mail Create bibliography Add to My List

Iranian Biomedical Journal

Volume 11, Issue 3, July 2007, Pages 203-208

Rapid DNA extraction protocol from stool, suitable for molecular genetic diagnosis of colon cancer

Abbaszadegan, M.R.^a, Velayati, A.^a, Tavasoli, A.^b, Dadkhah, E.^a^a Division of Human Genetics, Bu-Ali Research Institute, Mashhad University of Medical Sciences (MUMS), Mashhad, Iran^b Division of Surgery, Ghaem Hospital, Mashhad University of Medical Sciences (MUMS), Mashhad, Iran

Abstract

View references (16)

Background: Colorectal cancer (CRC) is one of the most common forms of cancers in the world and is curable if diagnosed at the early stage. Analysis of DNA extracted from stool specimens is a recent advantage to cancer diagnostics. Many protocols have been recommended for DNA extraction from stool, and almost all of them are difficult and time consuming, dealing with high amount of toxic materials like phenol. Their results vary due to sample collection method and further purification treatment. In this study, an easy and rapid method was optimized for isolating the human DNA with reduced PCR inhibitors present in stool. Methods: Fecal samples were collected from 10 colonoscopy-negative adult volunteers and 10 patients with CRC. Stool (1 g) was extracted using phenol/chloroform based protocol. The amplification of P53 exon 9 was examined to evaluate the extraction efficiency for human genomic targets and also compared its efficiency with Machiels et al. and Ito et al. protocols. Results: The amplification of exon 9 of P53 from isolated fecal DNA was possible in most cases in 35 rounds of PCR using no additional purification procedure for elimination of the remaining inhibitors. Conclusion: A useful, rapid and easy protocol for routine extraction of DNA from stool was introduced and compared with two previous protocols.

Reaxys Database Information

|

Author keywords

Colon cancer; DNA extraction; Stool

Indexed Keywords

EMTREE drug terms: chloroform; DNA; phenol; protein p53

EMTREE medical terms: article; cancer diagnosis; clinical article; clinical protocol; colon cancer; colonoscopy; controlled study; diagnostic procedure; DNA extraction; DNA isolation; exon; feces analysis; gene amplification; human; human genome; intermethod comparison; molecular genetics; polymerase chain reaction; purification

MeSH: Adult; Base Sequence; Case-Control Studies; Colonic Neoplasms; Colorectal Neoplasms; DNA Primers; DNA, Neoplasm; Feces; Genes, p53; Humans; Molecular Biology; Polymerase Chain Reaction

Medline is the source for the MeSH terms of this document.

Chemicals and CAS Registry Numbers: DNA, 9007-49-2; chloroform, 67-66-3; phenol, 108-95-2, 3229-70-7; DNA Primers; DNA, Neoplasm

ISSN: 1028852X CODEN: IBJRA Source Type: Journal Original language: English

PubMed ID: 18051782 Document Type: Article

References (16)

View in table layout

Page Export Print E-mail Create bibliography

Markowitz, A.J., Winawer, S.J.

1

Cited by since 1996

This article has been cited **3 times** in Scopus:
(Showing the 2 most recent)

Babaei, Z., Oormazdi, H., Rezaie, S.
Giardia intestinalis: DNA extraction approaches to improve PCR results
(2011) *Experimental Parasitology*

Tang, J.-n., Zeng, Z.-g., Wang, H.-n.
An effective method for isolation of DNA from pig faeces and comparison of five different methods
(2008) *Journal of Microbiological Methods*

View details of all 3 citations

Inform me when this document is cited in Scopus:

Set alert | Set feed

Related documents

Showing the 2 most relevant related documents by all shared references:

Abbaszadegan, M.R., Tavasoli, A., Velayati, A.
Stool-based DNA testing, a new noninvasive method for colorectal cancer screening, the first report from Iran
(2007) *World Journal of Gastroenterology*

Olson, J., Whitney, D.H., Durkee, K.
DNA stabilization is critical for maximizing performance of fecal DNA-based colorectal cancer tests
(2005) *Diagnostic Molecular Pathology*

View all related documents based on all shared references or select the shared references to use

Find more related documents in Scopus based on:

Authors | Keywords

More By These Authors

The authors of this article have a total of **61 records** in Scopus:
(Showing 5 most recent)

Rafatpanah, H., Rezaee, A., Etemadi, M.M., Hosseini, R.F., Khorram, B., Afsahr, L., Taylor, G., Mokhber, N., Mahmoudi, M., Abbaszadegan, M.R., Foroghi, M., Hashemi, P., Amiri, A., Tehrani, M., Azarpazhooh, A., Azarpazhooh, M.R.

The impact of interferon-alpha treatment on clinical and immunovirological aspects of HTLV-1-associated myelopathy in northeast of Iran

(2012) *Journal of Neuroimmunology*

Add apps | Help