**Scientific Research Process**

**Name of journal:** *World Journal of Gastroenterology*

**Manuscript NO:** 36519

**Manuscript type:** Basic Study

**Title:** Gene mutations in stool from gastric and colorectal neoplasia patients by next generation sequencing

**Authors: Omar Youssef, Virinder Sarhadi, Homa Ehsan, Tom Böhling, Monika Carpelan-Holmström, Selja Koskensalo, Pauli Puolakkainen, Arto Kokkola, Sakari Knuutila**

**Correspondence to:** Sakari Knuutila, PhD, Professor, Department of Pathology, Faculty of Medicine, University of Helsinki.

Email: sakari.knuutila@helsinki.fi

Mailing address: Haartmaninkatu 4, P.O.Box 105, FI-00029 HUCH, Finland.

**Phone:** +358 504482797

**Fax:** +358 294126700

1 What did this study explore?

**We explored the feasibility of using stool samples for assessing the mutational status in different gastrointestinal neoplasia patients (Gastric and Colorectal).**

2 How did the authors perform all experiments?

**Stool samples were collected from patients with different gastrointestinal neoplasms by Monika Carpelan-Holmström, Selja Koskensalo, Pauli Puolakkainen and Arto Kokkola. All experiments were performed by Omar Youssef, Virinder Sarhadi and Homa Ehsan. Gene mutations in stool samples were analyzed by using next generation sequencing. Also, stool samples from healthy individuals were included as controls.**

3 How did the authors process all experimental data?

**Experimental data were processed by Omar Youssef, Virinder Sarhadi, Sakari Knuutila, Pauli Puolakkainen and Arto Kokkola. Other authors gave advice how to interpret and evaluate the data.**

4 How did the authors deal with the pre-study hypothesis?

**Omar Youssef, Virinder Sarhadi and Sakari Knuutila hypothesized the study design based on their earlier studies and experience with the methodology.**

5 What are the novel findings of this study?

* **Gene mutations can be detected in stool samples not only from patients with colorectal neoplasms, but also from patients with gastric neoplasms.**
* **Mutations were detected at early stages of malignancy, premalignant dysplasia as well as benign adenomas.**