

GASTROPANEL and ACETIUM- innovations: The GastroPanel blood examination reveals *Helicobacter pylori* infection and atrophic gastritis with related risks, including an increased risk of gastric and oesophageal cancer. Acetium® capsule, that binds the carcinogenic acetaldehyde to form a harmless compound in the stomach, may decrease the risk of these cancers.

GastroPanel®, the unique *Helicobacter pylori* test can detect the following conditions:

1) *Helicobacter pylori* (HP) infection which is an independent risk factor of both gastric cancer and peptic ulcer disease (gastric- and duodenal ulcer).

2) HP infection -induced atrophic gastritis (AG), which in most cases is asymptomatic, as well as the topographic site of AG either in the corpus or in antrum. Apart from HP infection, AG in the corpus with all its clinical sequels can also develop through an autoimmune disease of the gastric mucosa.

2.1) AG of the corpus mucosa leads to low acid output or eventually achlorhydric (acid-free) stomach. This increases the risk of gastric or esophageal cancer, as well as malabsorption of vitamin B12, calcium, magnesium and zinc. In addition, absorption of some medicines, e.g. dipyridamol, some iron preparations and anti-fungal drugs (fluconazol, itraconazol), thyroxin and atazanovir is impaired due to acid free stomach. Calcium deficiency can cause osteoporosis, and vitamin B12 deficiency can contribute to development of Alzheimer's disease, dementia, depression or peripheral neuropathies. Reduced acid output in the stomach can also increase the risk of serious infections in the gastrointestinal- and respiratory tract, including giardiasis, malaria, Clostridium difficile, E. coli EHEC and pneumonia.

2.2) AG of the antrum that increases the risk of gastric cancer. Co-existent AG of the corpus and antrum (pangastritis) is the single most important risk condition for gastric cancer.

3) HP infection also in subjects with AG, MALT-lymphoma or bleeding peptic ulcer, and in those taking PPI medication or antibiotics. In these cases, 13C-urea breath test (UBT) or stool HP antigen test frequently give false negative results, and HP infection (with all its possible consequences) remains undetected. UBT may give false positive results in subjects with acid-free stomach. In addition, UBT and HP antigen or antibody tests do not detect AG due to HP-infection or autoimmune disease (<http://www.biohithealthcare.com/limitations-of-helicobacter-pylori-diagnostics>).

4) High acid output of the gastric mucosa, which predisposes to esophageal reflux disease with potential complications. These are ulcerative esophagitis, Barrett's esophagus or lower esophageal cancer.

GastroPanel detected – i) Symptomatic *Helicobacter pylori* (HP) infection after eradication, ii) Atrophic gastritis (AG) or iii) symptomatic high acid output are indications for gastroscopy and biopsy examination.

The GastroPanelinnovation is based on follow-up studies on gastritis patients conducted by research groups in Finland and Estonia (1) and the discovery of the role of *Helicobacter pylori* in pathogenesis of gastritis and peptic ulcer disease, which led to Nobel Prize in 2005 (2), as well as on Biohit's R&D and the microplate immunoassay analyzers based on the invention of the vertical light beam measurement principle (3,4).

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The GASTROPANEL and ACETIUM-innovations are together a unique combination that can help prevent gastric and oesophageal cancers. GastroPaneldetects atrophic gastritis and the related gastric and oesophageal cancer risks while the conditions are still treatable. Atrophic gastritis of the corpus, which is usually irreversible, leads to permanent achlorhydria. In an achlorhydric stomach (also caused by a long term PPI-treatment), microbes from the mouth can survive and produce acetaldehyde from sugars and alcohol present in food. In October 2009, WHO classified acetaldehyde present in alcoholic beverages and formed from ethanol

endogenously as Group 1 human carcinogen, i.e., in the same category with the well-known carcinogens asbestos, tobacco and benzene. Globally, acetaldehyde exposure mediated by gastrointestinal tract microbes or tobacco smoke is associated with substantial proportion of new cancer cases each year, including upper aero-digestive tract, colon and pulmonary cancers. Biohit Oyj has developed Acetium® products designed to reduce the exposure to acetaldehyde, which is produced by microbes from ethanol or derived from food (www.acetium.com , www.biohithealthcare.com/scientific/study-protocols).

In 2012, the European Commission's appointed group of experts gave a unanimous recommendation stating that cosmetic products may contain at most 5 mg/l of acetaldehyde while no acetaldehyde may be added to mouth wash. Many alcoholic beverages and foodstuffs sold in Finland exceed (by several-fold) the maximum permitted acetaldehyde levels for cosmetic products (www.acetium.com, <http://www.biohithealthcare.com/laboratory-services>).

Acetium® capsules bind the carcinogenic acetaldehyde in the stomach with individuals suffering from an anacidic stomach due to the following reasons: 1) an atrophic gastritis, 2) PPI medication or 3) a stomach surgery, as well as in individuals with 4) gene mutation affecting acetaldehyde metabolism or 5) chronic helicobacter infection that produces acetaldehyde. Studies are ongoing testing the possible efficacy of Acetium capsules in treatment of atrophic gastritis and in prevention of migraine and cluster headache (www.biohithealthcare.com/scientific/study-protocols).

Acetium® lozenges effectively bind acetaldehyde from saliva and form a harmless compound. Acetium lozenge removes 87% of the immediate effects of acetaldehyde in saliva from alcoholic beverages containing high levels of acetaldehyde and over 90% of acetaldehyde dissolved in saliva during smoking. The possible role of Acetium lozenge as an effective means in smoking intervention is under study.

The state-of-the-art, safe and economic GastroPanel examination for the diagnosis of *Helicobacter pylori* (*H.pylori*) infection and atrophic gastritis with all its sequels does not have any of the following serious medical problems:

The ¹³C urea breath test (UBT), stool antigen test and antibody tests for *H. pylori* infection do not detect atrophic gastritis which is caused by *H. pylori* infection or an autoimmune disease. The early and reliable diagnosis of atrophic gastritis is important and often life-saving because of its several risks, including, e.g., possible unnecessary deaths, human distress and health care costs due to stomach and oesophageal cancer.

In addition to the risks of gastric and oesophageal cancer, atrophic gastritis may cause malabsorption of vitamin B12, iron, magnesium, calcium and some drugs. Calcium deficiency causes osteoporosis, and vitamin B12 deficiency can cause Alzheimer's disease, dementia, depression and polyneuropathy, as well as high homocysteine content in the body, which in turn is thought to be an independent risk factor for atherosclerosis, heart attacks and strokes. The absorption of dipyridamole, some iron products and antifungals (fluconazole, itraconazole), thyroxine and atazanavir is considerably impaired in an anacidic stomach.

Atrophic gastritis in the gastric corpus and a long-term PPI therapy cause an acidity (achlorhydria) of the stomach. Reduced acid output in the stomach can also increase the risk of serious infections in the gastrointestinal- and respiratory tract, including giardiasis, malaria, *Clostridium difficile*, *E. coli* EHEC and pneumonia.

H. pylori gastritis may also develop into antral atrophic gastritis, which increases the risk of peptic ulcer disease and gastric cancer. If both antrum and corpus mucosa are atrophic, this condition is the highest risk for gastric cancer known to date.

Furthermore, none of the aforementioned three *H. pylori* tests (¹³C urea breath test, stool antigen test and antibody test) provides any information on excessive gastric acid secretion (high acid output), which is diagnosed by GastroPanel, and which in patients with gastro-oesophageal reflux disease may cause complications in esophagus. Such complications are often asymptomatic and include ulcerative oesophagitis and Barrett's oesophagus, which may lead to oesophageal cancer if left untreated. In addition, the ¹³C urea breath test and stool antigen test may give up to 40% false negative results if the patient has a) atrophic gastritis b) MALT lymphoma, c) bleeding peptic ulcer disease, or d) if the patient is currently receiving antibiotics or PPIs.

Diagnosis of upper abdominal complaints (dyspepsia) and *H. pylori* infection is still biased by the above described medical problems that may lead to delayed diagnosis and disease progression beyond curative treatment.

Before the entry of the GastroPanel innovation in the market for more than ten years ago, atrophic gastritis (AG) and *Helicobacter pylori* infection, were found by chance during gastroscopy. Thus, acid-free stomach (AG of the corpus) which is usually asymptomatic has remained undetected in many people. These undetected lesions might have progressed to gastric or oesophageal cancer (possible in several hundred subjects every year in Finland) or resulted in B-12 vitamin deficiency with all associated sequels that are no longer curable. There are only estimates of the number of such events during the past ten years, when most of the people with dyspepsia (20-40% of the population) or *H. pylori* infection (5 to 80% of the population, pending on age) have been examined only with the ¹³C-urea breath test (UBT). Even today, most doctors, not to mention the patients with dyspeptic disorders, are not adequately aware of the fact that the UBT and the stool antigen test may give false negative results, and UBT may also give false positive results, and neither of the two tests will not detect atrophic gastritis and all its risks.

Rational for use of GastroPanel examination by general practitioners – for huge unmet need (indications)

- GastroPanel is the first-line diagnostic test for the diagnosis of *H. pylori* infection (5-80% of the world population) and in examination of all patients with dyspepsia (20-40% of the Western population).
- GastroPanel should be used to rule out or confirm the high acid output of reflux patients instead of the trial and error use of PPIs. The long term use of PPIs might increase the risk of stomach and oesophageal cancer.
- GastroPanel biomarkers Pepsinogen I (PGI), Pepsinogen II (PGII), Gastrin-17 (G-17) and *H.pylori* antibodies reveal:
 - Subjects at increased risk for stomach- and oesophageal cancer, i.e., those with atrophic gastritis as well as those with a low risk of cancer; *H.pylori* infection with no atrophic gastritis in the antrum or corpus.
 - Early and reliable diagnosis of *H.pylori* infection and atrophic gastritis (AG) saves costs and may prevent many unnecessary deaths due to stomach and oesophageal cancer.
- GastroPanel is also indicated for special target patients, especially for patients with autoimmune diseases (usually more than one at the same time), including, e.g.:
 - patients with autoimmune thyroiditis who may have autoimmune atrophic gastritis (AAG, 18% of thyroiditis patients) in the corpus with related risks,
 - patients with type 1 diabetes who may have AAG and, e.g., also deficiency of B-12 vitamin (12% of type 1 diabetes patients) with related risks, patients with celiac disease who may have AAG with related risks, and patients with rheumatoid arthritis who may have AAG with related risks.
- In patients with AG or AAG, absorption of vitamin B12 is reduced (15).
 - Due to vitamin B12 deficiency, there is an increased risk of depression, Alzheimer's disease, dementia and polyneuropathy. Consequently, all patients with depression, Alzheimer's

- disease, dementia and polyneuropathy should be examined by GastroPanel to rule out or confirm those with AG or AAG in the corpus.
- Due to vitamin B12 deficiency, increased homocysteine levels in the body may be related to:
 - Atherosclerosis – these patients should be examined by GastroPanel to rule out or confirm AG or AAG with related risks
 - Heart attacks – these patients should be examined by GastroPanel to rule out or confirm AG or AAG with related risks
 - Strokes – these patients should be examined by GastroPanel to rule out or confirm AG or AAG with related risks.
 - Furthermore, in patients with AG or AAG of the corpus, absorption of Ca, Fe, Mg and Zn is reduced. Low Ca is associated with osteoporosis, while low serum Fe results in anemia.
 - Patients with osteoporosis (or otherwise prone to bone fractures) and anemia patients should be examined by GastroPanel to rule out or confirm AG or AAG.
 - The risk of pneumonia and in senior citizens also the risk of fatal intestinal infections (such as giardiasis, malaria, *Clostridium difficile* and *E. coli* EHEC) may increase significantly due to an anacidic stomach caused by AG, AAG or PPI's. All patients with such infections should be examined by GastroPanel for detection of AG and AAG.
 - Subjects diagnosed with AG and AAG, high acid output or symptomatic *H. pylori* infection in the GastroPanel examination need gastroscopy in order to confirm diagnosis and treatment.

Biohit emphasizes that the GastroPanel blood test is not a test for stomach cancer, but instead a test that detects the subjects at risk for gastric cancer. GastroPanel finds with high precision, asymptomatic and *H. pylori* infection and gastric mucosal atrophy (atrophic gastritis), at an early stage when still controllable by regular monitoring.

In 2012, group of 16 of the leading gastroenterologist from 12 different countries released a joint statement that the atrophic gastritis screening and detection by GastroPanel biomarkers is a clearly justified (1). The same conclusion was reached by the widespread Maastrich IV recommendation, according to which the biomarker tests are recommended as part of the diagnosis and management strategy of *Helicobacter pylori* infection and atrophic gastritis (2).

In addition, a recent international conference held in Kyoto published recommendations that the use biomarkers included in GastroPanel is a highly suitable method to replace the often unnecessary endoscopies, (of which 80% are unnecessary) for the diagnosis and screening of stomach diseases (3). Furthermore in 2012, 63 experts from 24 countries found that gastric mucosal atrophy (atrophic gastritis) may result in, among other things, gastric cancer, and therefore should be monitored at regular intervals (4). Finding atrophic gastritis requires gastric endoscopy and regular monitoring. Early detection and treatment of stomach cancer significantly improves the patient's prognosis. In current practice, gastric cancers are in most cases diagnosed too late, because the current practice used in the diagnosis of *Helicobacter pylori* infection ¹³C-urea breath test and stool antigen test do not reliably find *Helicobacter pylori* infection.

GastroPanel blood test has been shown to be highly cost-effective. According to cost-efficiency model developed by Nordic Healthcare Group, organized GastroPanel screening of one single age group for the risk of gastric cancer potentially saves more than EUR 80 million in the national healthcare costs in Finland. Worldwide, already millions of people have been tested with this test.

H. pylori infection or autoimmune atrophic gastritis (AG), with associated risk of gastric cancer and other sequels, or the level of acid output in the stomach, cannot be accurately diagnosed by the conventional tests used for diagnosis of dyspepsia and *H. pylori* infection, e.g. ¹³C -urea breath test (UBT) stool antigen test or -antibody test. In subject with atrophic gastritis, MALT-lymphoma or bleeding peptic ulcer, and in those on PPI medication or antibiotics, UBT or stool antigen test frequently give false negative results, and *H. pylori* infection (with all its risks) remains undetected (5 - 9). UBT may also give false positive results in cases with acid-free stomach.

GastroPanel biomarkers are capable of diagnosing atrophic gastritis affecting either the corpus or antrum or both. As compared with gastroscopy, accurate diagnosis of atrophic gastritis is not always possible in a few small biopsy specimens representing only a minimal sample of the whole area of the adult gastric mucosa. In addition, the mucosal atrophy (mild atrophy in particular) is a subjective diagnosis, with substantial inter-observer variation among pathologists. Similarly, the accuracy of gastroscopy is dependent on the experience and competence of the gastroenterologist. GastroPanel biomarkers are devoid of these shortcomings, because they are automated laboratory immunoassays. In fact, endoscopic biopsy histology is not a reliable gold standard (10), albeit currently used as such. As compared with biomarkers, its limitations in diagnostic accuracy should be kept in mind (11, 12).

When performed by skillful gastroenterologists and pathologists, the agreement between GastroPanel and gastric biopsy histology is very good, exceeding 0.8 (the limit of almost perfect) by weighted kappa test (13). Importantly, the diagnosis of gastric atrophy is highly subjective without use of gastric biopsies, i.e., on the basis of gastroscopy alone (14).

When GastroPanel biomarkers indicate that gastric mucosa is healthy (no *H. pylori* infection and/or no atrophic gastritis), the clinical symptoms are often caused by functional dyspepsia or other functional disturbance without an organic disease in the gastric mucosa. As much as 50 percent of dyspepsia symptoms may originate from the colon, especially in the elderly population. Consequently, Biohit GastroPanel®- and ColonView-innovations together produce plenty of valuable information in diagnosis, screening and prevention of diseases.

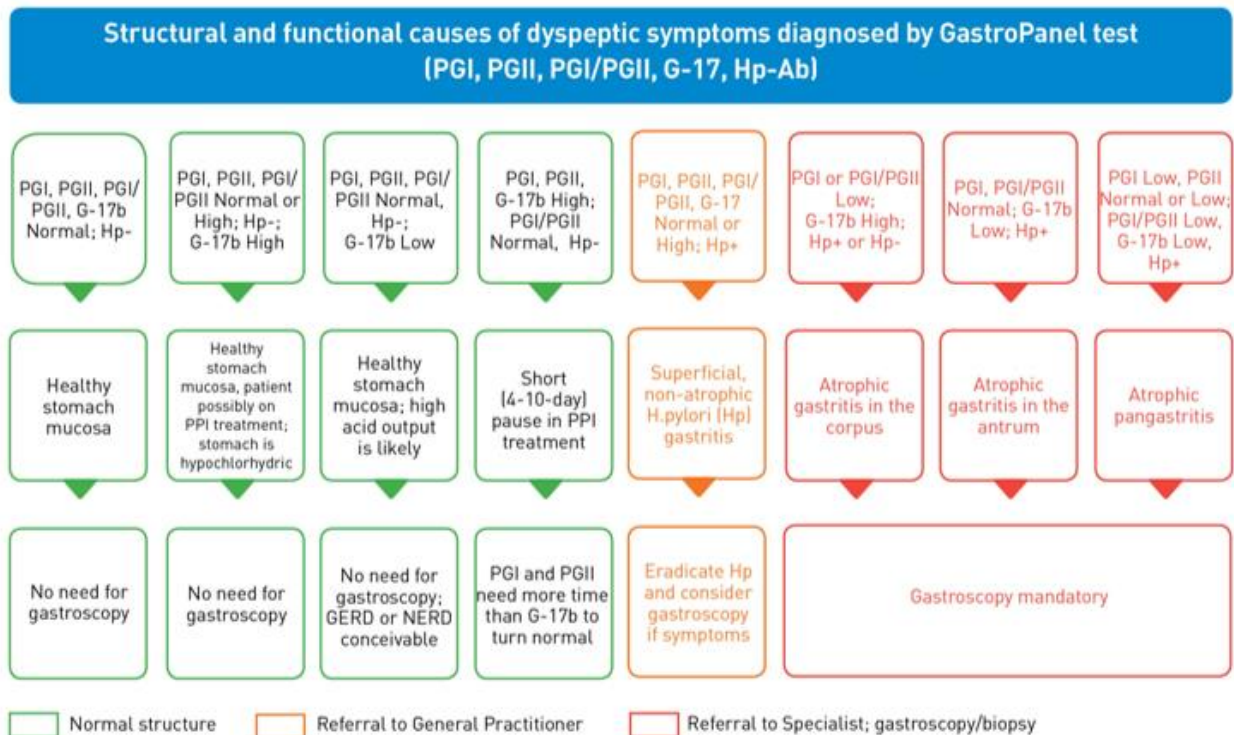
Biohit's ColonView Hb and Hb/Hp Fecal Occult Blood Test is an immunochromatographic quick test for the detection of human hemoglobin (Hb) and hemoglobin/haptoglobin complex (Hb/Hp) in stool samples. This test is based on the pioneering invention, dating back to the 1980's (a,b).

ColonView Hb and Hb/Hp Fecal Occult Blood Test was designed to aid diagnosis of lower GI pathologies, such as colorectal cancers and large adenomas that bleed. In 2012, colorectal cancer was the third most common cancer in men (746,000 cases) and the second in women (614,000 cases), with more than 690 000 annual deaths worldwide. Screening for colorectal cancer reduces disease-specific mortality by increasing the cancer detection at its' early stages (c).

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The GastroPanel biomarker profiles

GastroPanel® – interpretation guide snapshot



“Healthy mucosa” refers to the patients with no helicobacter-infection, atrophic gastritis and related risks or high acid output.

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APPENDIX

BIOHIT Oyj's INFORMATION FOR HEALTH CARE SECTOR AND ITS USERS

The purpose of this information is to draw the attention of the health care sector and its users to the significant benefits obtainable in the Finnish healthcare by implementing the diagnostic tests and other products of Biohit Oyj.

We hope you would find time to read this information and give us feedback e.g. by telling us about situations, where you have experienced that the diagnostic procedures and/or management strategies have not succeeded in the most optimal way.

Gastric- and oesophageal cancer

Gastric cancer decreases in Finland but identification of the risk factors is even more challenging, because the incidence of gastric cancer has steadily decreased since the 1960's. Nevertheless, the risk factors remain the same. Two most important ones are ***Helicobacter Pylori (HP)*** and **atrophic gastritis** (atrophy of the stomach mucosa). In 2014, 650 patients developed gastric cancer and 430 died of it. The corresponding figures for oesophageal cancer were 307 and 257 persons.

The diagnosis for gastric cancer is still made too often in a stage when alarming symptoms, e.g., loss of weight and hematemesis, have already appeared and the prognosis is poor. One of the possible reasons might be that in our country, the clearly outdated 13C-urea breath test (UBT) and stool antigen test (SAT) are still used for HP diagnostic in patients suffering from upper abdominal complaints, despite the fact that these two tests might give false negative results. UBT might also give false positive results. In addition, these two tests, like HP antibody tests, fail to diagnose atrophic gastritis with the associated increased risk of gastric- and oesophageal cancer ([above- mentioned limitations, study information](#)).

From GastroPanel – blood test to the screening of the gastric- and oesophageal cancer risks

In patients suffering from dyspeptic symptoms as well as from asymptomatic subjects, GastroPanel detects, in addition to possible HP, also atrophic gastritis caused by HP or an autoimmune disease. GastroPanel is also suitable for screening of gastric- and oesophageal cancer risk groups (HP and atrophic gastritis). GastroPanel examination also gives a plenty of valuable additional diagnostic information for disease prevention and treatment ([additional information, cost savings](#)).

If GastroPanel detects 1) a symptomatic HP-infection after eradication therapy; 2) a usually asymptomatic atrophic gastritis, or 3) a symptomatic high acid output, it is recommended that a gastroenterologist performs gastroscopy with directed biopsies, which can detect even other diseases. In the basic- and occupational healthcare, GastroPanel should be an integral part of the diagnostic profile of all patients suffering from upper abdominal complaints. Also among asymptomatic subjects, [GastroPanel](#) detects the risk patients who should have an endoscopy performed with biopsies.

Worldwide, approximately 1.4 million people each year develop gastric- and oesophageal cancer. Due to the fact that the symptoms of these cancers are non-specific and the

pivotal risk factors, HP-infection and atrophic gastritis, are asymptomatic in most cases, the diagnosis is usually made too late. Only 15% of gastric cancer patients are alive after 5 years.

Because of this, and in part due to the reasons mentioned later, an [international group of experts](#) recommended already in 2012 that GastroPanel biomarkers should be used as the first-line diagnostic test for all patients suffering from dyspeptic symptoms. On the basis of a [domestic](#) and [an Italian](#) meta-analysis published recently, the accuracy of GastroPanel test in diagnosis of the gastric cancer risk conditions (atrophic gastritis) is very high. GastroPanel is also highly suitable for population-based screening of the risk groups, because its biomarkers have an excellent [longitudinal predictive value](#) for gastric cancer.

One should keep in mind that in association with many relatively [common autoimmune diseases](#), such as type 1 diabetes, thyroiditis or rheumatoid arthritis, an asymptomatic autoimmune atrophic gastritis can develop, an early diagnosis of which is important because of an increased stomach cancer risk.

ColonView-FIT for screening of colorectal cancer

ColonView-FIT, an immunochromatographic test specific and sensitive for human blood, is designed for [early diagnosis and screening](#) of colorectal cancer and its precursors. Especially among elderly people, the cause of upper abdominal complaints can be colon- derived even in half of the cases. Due to this fact, using GastroPanel and ColonView-FIT tests together in diagnosis of all patients suffering from such complaints helps and speeds the correct diagnosis, increasing the patient safety and saving costs.

Implementation of the national colorectal cancer screening program should be prompted because 3050 patients develop and 1220 die of colorectal cancer in Finland each year. Because of this, the modern FIT test, specific to human blood, should be the test-of-choice for the national screening program for colorectal cancer. Screening of colorectal cancer would be the first national cancer screening, in which also the men can participate.

Biologically active B12-vitamin

The most important cause for vitamin-B12 deficiency is atrophic gastritis, which still often goes undiagnosed in an early stage (see above). When GastroPanel detects HP or atrophic gastritis caused by an autoimmune disease, the possibility of B12 deficiency should always be considered, caused by malabsorption due to atrophic gastritis. Deficiency of vitamin-B12 is very common especially among elderly people, being encountered in approximately one out of ten subjects over 65-years of age in Finland. A delayed diagnosis can be accompanied by permanent neurological damage, depression and dementia. When the atrophic gastritis in an asymptomatic subject has been detected, the eventual vitamin-B12 deficiency is easy to confirm with another Biohit test, which measures the level of [active vitamin-B12](#) from a blood sample.

Acetium capsule and Acetium lozenge

Acetium capsules bind carcinogenic [acetaldehyde](#) in an acid-free stomach binding it into a harmless compound. As a result of a long-term PPI-medication, acid output in the stomach is decreased, with possible acid-free stomach as an end result. This is related to an increased risk of gastric cancer (among other things). Consequently, it is recommended that persons with long-term PPI-medication should start using Acetium-capsules. Approximately 10% of the western population is using occasionally or continuously PPI-medication, which eliminates the symptoms and might delay the diagnosis of gastric cancer beyond the reach of curative treatment.

Because of this, it is always advisable that before starting PPI-medication, GastroPanel test is done to confirm that the patient does not already have an acid-free stomach.

Acetium capsule is the only product on the market, which significantly helps reduce the impact of carcinogenic acetaldehyde in the stomach and oesophageal mucosa. Globally, approximately 500 million people are estimated to suffer from an [atrophic gastritis](#).

New indications of use for Acetium capsule and lozenge

The currently ongoing clinical studies are examining new potential indications of use for Acetium capsules. Preliminary evidence suggests e.g. that regularly used Acetium capsules can help prevent migraine ([teaser](#); [Study Protocols](#))

Acetium lozenge might also provide an effective means in [smoking intervention](#). This type of evidence was provided by two separate studies, during which a substantial proportion of study subjects were able to quit smoking with help of Acetium lozenge. The likelihood to stop smoking was 51% higher among the Acetium- than in the placebo arm. Acetium lozenge with its xylitol context also promotes oral health, in addition to binding carcinogenic acetaldehyde dissolved into the saliva from cigarette smoke and alcohol converting it into a harmless compound. Because smoking and alcohol are the most important risk factors of oral cancer, Acetium lozenge might also provide protection against oral cancers. Nevertheless, Biohit recommends giving up smoking.

Possibilities for improving treatment practices

It is possible to improve the diagnostic and management practices in Finland by new domestic innovations (GastroPanel, ColonView-FIT and Acetium) designed for diagnosis and prevention, both increasing the patient safety and contributing to [cost savings](#) in healthcare. For example, a clinic offering *Helicobacter pylori* urea test (13C-urea breath test, UBT) as a sub-contractor fails to inform its customers about the serious [limitations](#) of the test, with potential impact on the patient safety.

Recently, Huslab (Laboratory of Helsinki University Hospital) announced that its sub-contractor (Department of Gastroenterology, Helsinki University Hospital) has terminated the use of UBT, which was subsequently removed from Huslab's test catalogue since May 8, 2017. These events concluded the dishonest competition of over 10 years duration to harm the GastroPanel and possibly also the entire national healthcare (www.biohit.fi/additional-information). Biohit GastroPanel biomarkers are included in the Huslab test catalogue where the doctors can request GastroPanel test (fP-Mahalaukun biomerkkiainetutkimus).

This means that the patient safety and costs also depend on the information that the health care users do receive and/or are capable of demanding from their service providers. As mentioned above, you may submit your feedback to info@biohit.fi

A patient suffering from dyspeptic complaints or those who want to make a health control, can ask for GastroPanel, ColonView-FIT and other Biohit tests at private practices and public health centers- or from their occupational healthcare providers. It is also possible to book an appointment for the test without a referral of a doctor at

Additional information

www.biohit.fi/varaaverkossa or by telephone +358 400 603 222, weekdays 9-15. Acetium products can be purchased at pharmacies prescription-free (www.biohitshop.fi)

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www.biohithealthcare.com

Biohit in brief

Biohit Oyj is a globally operating Finnish biotechnology company. Biohit mission is “Innovating for Health” – we produce innovative products and services to promote research and early diagnosis. Biohit is headquartered in Helsinki, Finland, and has subsidiaries in Italy and the UK. Biohit Series B share (BIOBV) is quoted on Nasdaq Helsinki in the Small cap/Healthcare group. www.biohithealthcare.com