PRODUCT CATALOGUE

BIOHIT

Innovating for Health

BIOHIT In Brief

Biohit Oyj is a globally operating Finnish biotechnology company established in 1988. Biohit's mission is "Innovating for Health".

Biohit shoulders its social responsibility by creating innovative new technologies and services that help physicians and research institutions to promote diagnostics and research. They can also prevent diseases of the gastrointestinal tract, human suffering and financial loss, thereby generating wellbeing. Being a socially responsible company, we feel it is our duty to raise public awareness of acetaldehyde, a group 1 carcinogen, and to innovate and develop the marketing of our products and services, ensuring their maximum availability to the public. Biohit is headquartered in Helsinki and has subsidiaries in Italy and the UK. Biohit's Series B share (BIOBV) is quoted on NASDA Q OMX Helsinki since 1999, Small cap/Healthcare.

Innovations

Gastrointestinal disorders are a growing worldwide phenomenon that also involves significant medical, ethical and financial issues. Gastrointestinal disorders are also the most common cause of complaints regarding treatment, or insufficient treatment. Such problems are essentially related to issues affecting the general healthcare sector and growing financial constraints caused by the ageing population.

Biohit's products and services are safe, ethical and cost efficient innovations for diagnosing and preventing gastrointestinal diseases and the associated risks.

biohithealthcare.com

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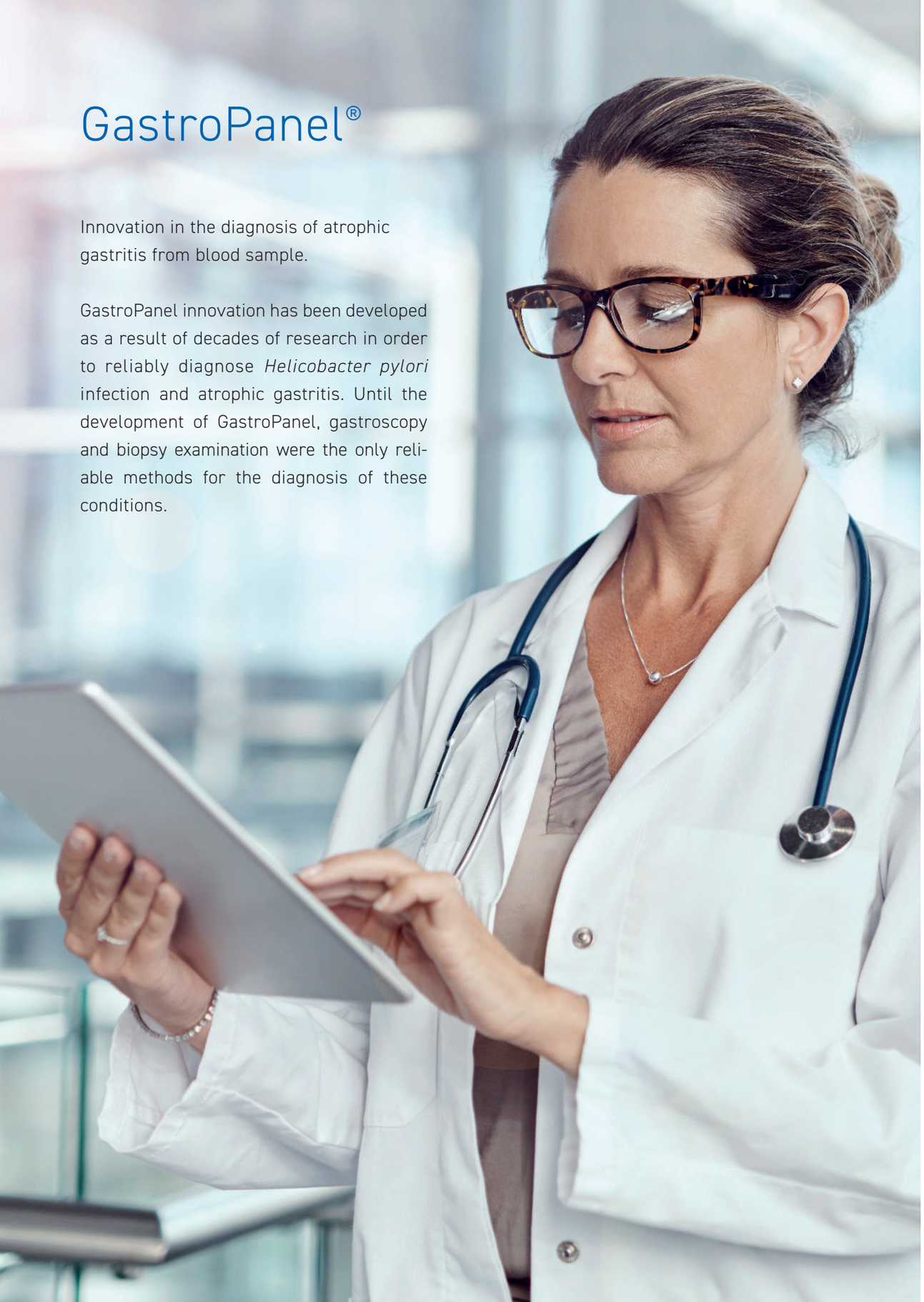


GastroPanel®

Innovation in the diagnosis of atrophic gastritis from blood sample.

GastroPanel innovation has been developed as a result of decades of research in order to reliably diagnose *Helicobacter pylori* infection and atrophic gastritis. Until the development of GastroPanel, gastroscopy and biopsy examination were the only reliable methods for the diagnosis of these conditions.

GastroPanel®

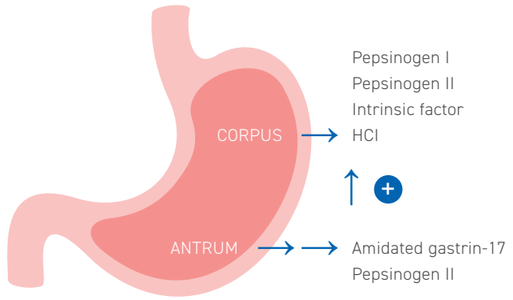
Stomach health test for dyspeptic patients and screening of asymtomatic subjects

GastroPanel® is a patient friendly, non-invasive, simple blood test for diagnosis of the function and structure of stomach mucosa. GastroPanel is intended as the first-line diagnostic test of the patients suffering from dyspepsia. It is a particularly useful tool for general practitioners and occupational health doctors, because the results can be used to evaluate the need for further investigations (usually gastroscopy).

GastroPanel detects four biomarkers. Three of these biomarkers are secreted by the cells in gastric mucosa: pepsinogen I (PGI), pepsinogen II (PGII) and gastrin-17 (G-17). These are complemented by *Helicobacter pylori* antibody measurement. This complete panel of all four biomarkers provides a more comprehensive profile of the gastric mucosa than could be achieved by using any of these as stand-alone biomarkers.

GastroPanel identifies *Helicobacter pylori* infection and indicates whether chronic infection has progressed to atrophic gastritis. GastroPanel also accurately confirms abnormalities in acid output. Since *Helicobacter pylori* infection and atrophic gastritis are the most important risk factors for stomach cancer, GastroPanel can also be used for screening of asymptomatic subjects for the risks of gastric cancer.

Gastropanel® biomarkers



GastroPanel® can be used to:

- Identify patients with healthy gastric mucosa
- Diagnose *H. pylori*
- Diagnose atrophic gastritis
- Identify patients with abnormal (high or low) acid output
- Identify patients who need gastroscopy
- Screening asymptomatic subjects for the risks of stomach cancer

GastroPanel® will highlight the following risks:

- Deficiency of Vitamin B12 and other micronutrients
- Peptic and duodenal ulcers
- Gastric and esophageal cancer

GastroPanel® will disclose the need for further investigations:

- Gastroscopy and biopsy
- *Helicobacter* eradication treatment
- Additional investigations for malabsorption or anemia

GastroPanel kits are based on the ELISA (enzyme-linked immunosorbent assay) principle and hence can be used with a variety of analysis equipment (manual or automated). The latest kits feature unified reagents and reaction conditions, making them even more accessible.

GastroPanel® Standard		
REF	**Product**	**Qty**
601300	GastroPanel® Standard	1 package
601010.01	Pepsinogen I	96 wells
601020.02	Pepsinogen II	96 wells
601035	Gastrin-17 Advanced	96 wells
601040.02	*Helicobacter pylori* IgG	96 wells

GastroPanel® Unified		
REF	**Product**	**Qty**
606400	GastroPanel® Unified	1 package
606010	GastroPanel® Pepsinogen I	96 wells
606020	GastroPanel® Pepsinogen II	96 wells
606035	GastroPanel® Gastrin-17	96 wells
606040	GastroPanel® *Helicobacter pylori*	96 wells

GastroPanel Four-in-One™

GastroPanel Four-in-One™ is based on the well-established GastroPanel Unified. Instead of having four individual kits, Four-in-One provides all analytes on one ELISA plate.

The main advantage is that all analytes can be analyzed during a single analysis cycle. This radically shortens the turn-around times for laboratories, doctors and patients alike. Up to 18 patient samples can be analyzed on a single plate, with performance that is equal to the GastroPanel Unified. The assay supports both manual and automated ELISA methods. Additionally, ready-made protocols already exist for some of the most common ELISA automates.

Like all GastroPanel family products, GastroPanel Four-in-One™ provides a minimally invasive tool for identifying organic origin of dyspepsia symptoms, and to diagnose *Helicobacter pylori* infection. The levels of PGI and PGII, G-17 and *H. pylori* antibodies provide information on both the structure and the function of stomach mucosa, hence assisting health care professionals to treat dyspepsia patients and to screen subjects at risk to gastric cancer. In combination with the dedicated GastroSoft® analysis software (available free-of-charge as a cloud service), it is truly a superior tool for firstline diagnosis of dyspeptic patients and for the population-based screening. For more information on the type of clinical information provided by this assay, please see page 5. of the catalogue.

GastroPanel Four-in-One™		
REF	**Product**	**Qty**
606080	GastroPanel Four-in-One™	96 wells

Four-in-One provides all analytes on one ELISA plate.

GastroPanel® Report

GastroSoft® is a software application designed to assist clinicians/general practitioners in interpreting GastroPanel test results in the context of the recorded anamnestic information. The GastroPanel report is intended for healthcare professionals only. The final responsibility of the diagnosis and treatment always rests with the patient's own doctor.

GastroPanel flowchart (below) depicts the eight distinct biomarker profiles and their interpretation. A more detailed written report covering all these profiles is produced by GastroSoft application.

Create your own GastroPanel report at gastropanel.com

→ **Healthcare professionals and laboratories**

→ **GastroPanel report**

GastroPanel® report by the GastroSoft® helps interpret the results

BIOHIT HealthCare
Innovating for Health

Patient Data
Patient id
Patient age
Gender

Eradicated	**Don't know**
Use of PPI	**Don't know**
Acid symptoms	**Don't know**
Use of NSAIDs	**Don't know**

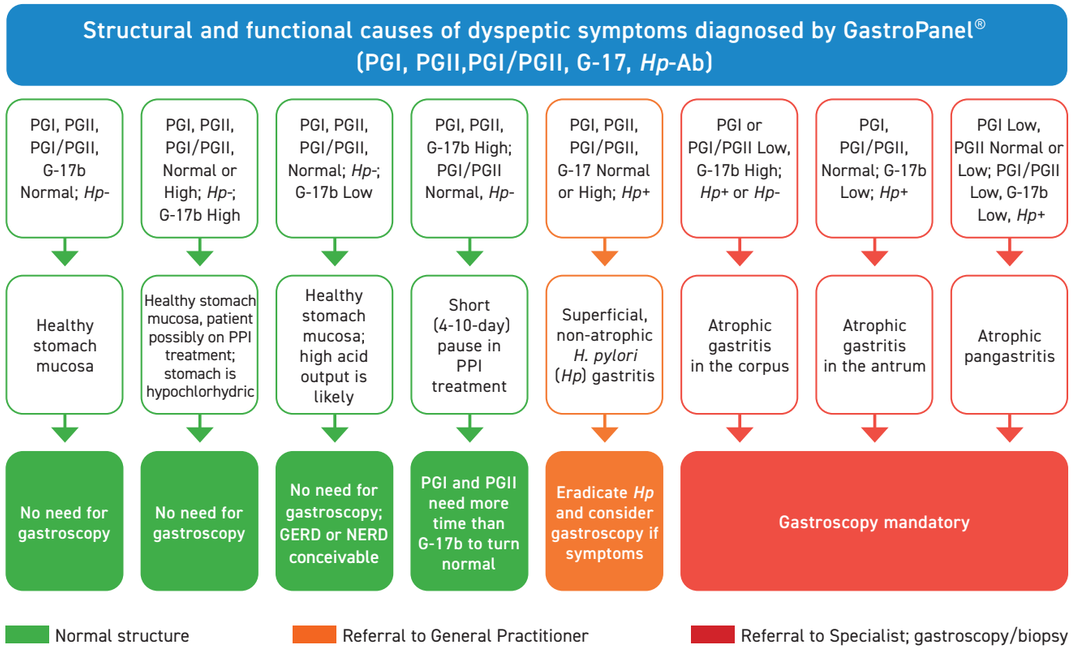
Sample data
Collection time
Analysis time

Laboratory analysis results		Reference range
Pepsinogen I	**78.9** µg/l	30–160 µg/l
Pepsinogen II	**22.3** µg/l *	3–15 µg/l
Pepsinogen I/II	**3.5**	3–20
Gastrin 17B (fasting)	**3.5** pmol/l	1–7 pmol/l
Gastrin 17S (postprandial)	**6.7** pmol/l	3–30 pmol/l
H.pylori	**209.7** EIU *	<30 EIU

Interpretation
The results indicate a Helicobacter pylori infection. However, if the Helicobacter pylori eradication treatment was given recently, Helicobacter pylori antibody levels may still be elevated. It may take several months for antibody levels to return to normal even after successful eradication treatment. There is no atrophic gastritis (loss of gastric cells) of the stomach mucosa.

Notice! The final diagnosis shall always be made by the clinician/medical doctor.

GastroPanel® - interpretation guide snapshot

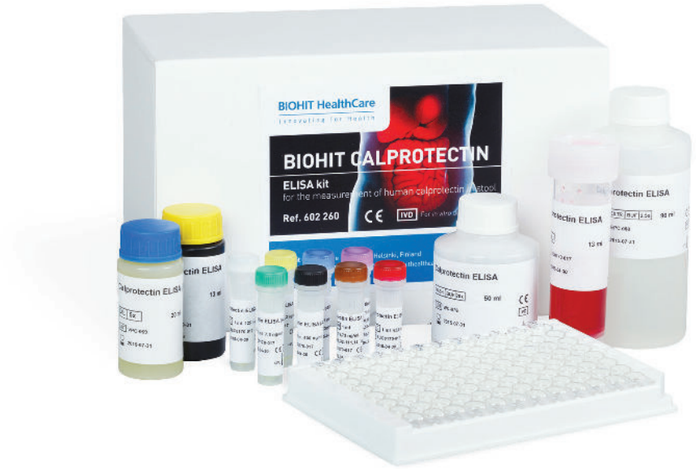


BIOHIT Laboratory Tests

- BIOHIT Calprotectin
- BIOHIT Active B12 (HoloTC)
- BIOHIT Total 250H Vitamin D

BIOHIT Calprotectin

For monitoring treatment and differentiating between IBD and IBS



BIOHIT Calprotectin is a quantitative test which provides a reliable differentiation between inflammatory bowel diseases (IBD) and irritable bowel syndrome (IBS). IBD is commonly associated with conditions such as ulcerative colitis and Crohn's disease. Patients suffering from either IBS or IBD may experience similar symptoms and a clinical examination alone may not be sufficient to give a specific diagnosis. Furthermore, these conditions may appear from early childhood to late adulthood and the diagnosis is often delayed due to vague symptoms or reluctance to perform endoscopy.

With BIOHIT Calprotectin, the determination between IBS and IBD can be made non-invasively and in-expensively from a stool sample. In organic disorders like IBD, the concentration of fecal calprotectin increases significantly, whereas with functional disorders like IBS this does not occur.

Easy handling with hygienic extraction tubes

BIOHIT Calprotectin ELISA can also be used for monitoring the mucosal healing of a patient with IBD. This for example helps to support the practitioner in making informed decisions concerning medication and the need for medical procedures such as endoscopy or surgery.

BIOHIT Calprotectin		
REF	**Product**	**Qty**
602260	BIOHIT Calprotectin	96 wells
602270	BIOHIT Extraction tubes	50 pcs

Applications

- Differentiates inflammatory bowel diseases (IBD) from irritable bowel syndrome (IBS)
- Monitoring of mucosal healing with IBD patients
- Relapse prediction (clinical remission)

Sampling made easy

- Consistence of the feces does not affect the result
- Only a small amount of sample required
- Easy handling with hygienic extraction tubes = reduced process time

Straightforward analysis

- Wide assay range with only one dilution 25 – 2500 mg/kg in feces
- Fits directly into automated systems (*e.g.*, Dynex DS2)

BIOHIT Active B12 (HoloTC)

For a conclusive determination of the vitamin B12 status

The traditional method of diagnosing vitamin B12 deficiency has been to measure the concentration of total vitamin B12 in the serum. The total vitamin B12 concentration essentially reflects vitamin B12 which is bound to its two carrier proteins forming holohaptocorrin (holoHC) and holotranscobalamin (holoTC). Whilst holoHC accounts for 70 % - 80 % of the vitamin B12 in serum, only holoTC (active vitamin B12) can be used by human cells. Measurement of total vitamin B12 can hence give erroneous results because it measures the vitamin B12 which is in circulation but does not indicate the active vitamin B12 that is available to the cells of the body.

The BIOHIT Active B12 (HoloTC) test provides a solution to the above diagnostic paradox: this test directly measures (holoTC) – the biochemically active form of vitamin B12 – from the human serum. This test is well suited for the screening of patients with a suspected vitamin B12 deficiency. BIOHIT Active B12 test can also be used for confirming the vitamin B12 status in the large number of patients who get an inconclusive result from total vitamin B12 tests.

BIOHIT Active B12 (HoloTC)		
REF	**Product**	**Qty**
602290	BIOHIT Active B12 (HoloTC)	96 wells

BIOHIT Active B12 (HoloTC)

- Measures the concentration of active vitamin B12 (holotranscobalamin) available to the cells
- Proven ELISA technology, support for both automated and manual analysis methods
- Unlike total B12 kits, no issues with Intrinsic Factor Blocking Antibody (IFBA) interferences
- Numerous clinical studies proving the performance of active B12 over total B12

Proven ELISA technology, support for both automated and manual analysis methods.

BIOHIT Total 25OH Vitamin D

For a conclusive determination of the vitamin D status

Vitamin D has multiple roles in the human body. In addition to its well established role in the regulation of calcium absorption and promoting bone growth, it is recognized for other health benefits including reducing risk of diseases such as type 1 diabetes and common cancers.

The best indicator of vitamin D status is the serum concentration of 25OH vitamin D. For a correct diagnosis of vitamin D deficiency, the assay must recognize two vitamins important in the human body, vitamin D2 and D3.

The best indicator of vitamin D status is the serum concentration of 25OH vitamin D.

The BIOHIT Total 25OH vitamin D kit is a quantitative immunoenzymatic assay. While detecting both 25OH vitamin D2 and D3, the kit provides clinically relevant information on the vitamin D status. Reliability of the results is ensured by validation against the ID-LC/MS-MS Reference Measurement Procedure (Ghent method) as approved by the Vitamin D Standardization Program (VDSP) with R>0.97.

BIOHIT Total 25OH Vitamin D		
REF	**Product**	**Qty**
602310.02	BIOHIT Total 25OH Vitamin D	96 wells

BIOHIT Total 25OH Vitamin D kit

- Detects both 25OH vitamin D2 and D3 for a clinically meaningful assessment of vitamin D status
- Calibrated against the ID-LC/MS-MS Reference Measurement Procedure
- User-friendly and fully automatable assay protocol

BIOHIT quick tests

- GastroPanel® quick test NT
- BIOHIT Celiac quick test
- BIOHIT ColonView quick test
- BIOHIT *Helicobacter pylori* UFT300
- *Helicobacter pylori* quick test
- Lactose Intolerance quick test

GastroPanel® quick test NT

GastroPanel® quick test NT is the Point-of-Care (POC) version of the well-established GastroPanel® test.

It is a semi-automated immunological lateral flow test for the quantitative detection of pepsinogen I (PGI), pepsinogen II (PGII), gastrin-17 (G-17) and qualitative detection of antibodies against *Helicobacter pylori* from finger prick whole blood or human EDTA plasma samples. GastroPanel quick test NT is used with the dedicated GP Reader NT device (REF 6740450) and the embedded GastroSoft® interpretation software. The test is to be used by healthcare professionals, either in a laboratory-based or Point-of-Care setting.

GastroPanel quick test NT is intended for diagnosing *H. pylori* infection and atrophic gastritis (AG) from patients with dyspeptic symptoms or at risk to develop malignant cellular changes in stomach mucosa. In addition, the test can aid in screening conditions that necessitate additional examination or treatment from healthy stomach mucosa.

Dyspepsia management in the primary health care vary considerably and often a treatment is determined without a proper diagnostical test. This can lead to overuse of expensive and burdensome endoscopy and even health issues caused by a long-term use of proton pump inhibitors, or failure to diagnose and treat a *Helicobacter pylori* infection. *H. pylori* is known to be a root cause for many gastric pathologies, including gastric cancer, gastritis and ulcer, and a chronic infection caused by this pathogen may be associated with various neurological and metabolical disorders, as well as some cardiac and respiratory diseases.

GastroPanel was developed to meet the need to have a minimally invasive tool for identifying organic origin of dyspepsia symptoms, and to diagnose *H. pylori* infection. The levels of PGI and PGII, G-17 and *H. pylori* antibodies provide information on both the structure and the function of stomach mucosa, hence assisting health care professionals to treat dyspepsia patients and to screen subjects at risk to develop malignant cellular changes. GastroPanel quick test NT system utilizes the same combination of validated biomarkers and decision algorithm in a Point-of-Care setting. This next-generation version of the GastroPanel can save time and costs and expedite referral to further examinations and treatment of the patient.

GastroPanel® quick test NT		
REF	Product	Qty
602410	For plasma and venous whole blood	30 tests
602420	For fingerprick whole blood	30 tests

GastroPanel® quick test NT	
REF	Product
740450	GP Reader NT

BIOHIT Celiac quick test

Accurate results from fingertip blood

BIOHIT Celiac quick test enables non-invasive and accurate testing of celiac disease from only a drop of blood. The test is based on the detection of three forms of anti-tissue transglutaminase antibodies (tTG); IgA, IgG and IgM. The test therefore delivers a superior sensitivity, especially in patients with IgA deficiency.

Easy testing at the Point-of-Care

The blood sample for BIOHIT Celiac quick test is taken as a finger-prick sample. The sample is placed on a lateral flow test cassette along with a buffer solution. The test result is clearly visible within 10 minutes.

BIOHIT Celiac quick test

- Sample: fingerprick / whole blood, plasma or serum samples
- BIOHIT Celiac quick test helps to enable accurate and patient-friendly testing of celiac disease from only a drop of blood.
- Results available in 10 minutes
- Detects antibodies (IgA/IgG/IgM) against human tissue transglutaminase

Easy-to-Use lateral flow quick test - Results in 10 minutes !

BIOHIT Celiac quick test		
REF	**Product**	**Qty**
602070	BIOHIT Celiac quick test	20 test/ package

Quick test Reader	
REF	**Product**
740400	Quick Test Reader

Use an electronic quick test Reader for objective interpretation of BIOHIT Celiac quick test. Contact Biohit for more information → info@biohit.fi

BIOHIT ColonView quick test

Detects bleeding derived from lower GI tract

BIOHIT ColonView quick test is an immunological lateral flow test which detects hemoglobin and hemoglobin-haptoglobin complex (*i.e.*, degraded hemoglobin) from a stool sample. The test can be used to detect bleeding derived from the lower parts of the GI tract. This gives the ColonView test a superior sensitivity and specificity to detect bleeding cancer tumors as well as their precursors (small polyps and adenomas).

One sample is enough for dual testing

Clever design of the ColonView sampling tube eliminates patient errors and ensures that there will always be a correct sample amount. The sampling tube is also a closed system which makes it hygienic to handle by the patient as well as during transportation and in the laboratory. The sampling tube contains all the necessary reagents and no additional accessories are needed for the analysis. One sample is enough for the testing of both Hb and Hb/Hp complex.

BIOHIT ColonView quick test

- Advanced tool to detect bleeding from lower GI tract
- Superior sensitivity and PPV
- Clever design of the sampling tube eliminates patient errors
- Closed system → hygienic sampling, transportation and analysis
- Specificity 100 %

One sample is enough for the testing of both Hb and Hb/HP complex - Results in 15 minutes !

BIOHIT ColonView quick test		
REF	**Product**	**Qty**
602250.02	BIOHIT ColonView quick test	30 tests
602390	BIOHIT ColonView QT Control	

Quick test Reader	
REF	**Product**
740400	Quick Test Reader

Use an electronic quick test Reader for objective interpretation of BIOHIT Colonview quick test. Contact Biohit for more information → info@biohit.fi

BIOHIT *Helicobacter pylori* UFT300

RESULTS IN 5 MIN FROM BIOPSY

Ultra-fast *H. pylori* detection from a biopsy

BIOHIT *Helicobacter pylori* UFT300 is a true quick test for the detection of *H. pylori* from a biopsy specimen. The biopsy taken during gastroscopy can be tested immediately to diagnose *H. pylori* infection or to determine the success of eradication therapy. The test results are ready in only 5 minutes enabling diagnosis and reporting at the same time. This saves the patient from an unnecessary visit to the doctor for hearing the test results. BIOHIT *H. pylori* UFT300 quick test has excellent sensitivity and specificity which makes it a highly reliable and accurate tool for diagnostics.

Biopsy testing could not be easier

BIOHIT *H. pylori* UFT300 quick test is easy and effortless to use. The biopsy specimen is placed into the test tube/well of the plate and mixed with the test reagent. Clear color change indicates the presence of *H. pylori* in the specimen. The procedure is safe and hygienic for the user, and the interpretation of the result doesn't require specialist training.

BIOHIT *Helicobacter pylori* UFT300 quick test

- Ready-to-use test kit
- Results ready in 5 min (both positive and negative)
- Storage in room temperature
- Sensitivity 94.5 %, Specificity 100 %
- Testing and reporting during one appointment

Plate and tube versions available!

BIOHIT *Helicobacter pylori* UFT300 with plate		
REF	Product	Qty
602005PLA	BIOHIT *Helicobacter pylori* UFT300	5 tests
602019PLA	BIOHIT *Helicobacter pylori* UFT300	50 tests
602017	BIOHIT *Helicobacter pylori* Control	1

BIOHIT *Helicobacter pylori* UFT300 with tube		
REF	Product	Qty
602019	BIOHIT *Helicobacter pylori* UFT300	50 tests
602021	BIOHIT *Helicobacter pylori* UFT300	100 tests
602017	BIOHIT *Helicobacter pylori* Control	1

Not available in the United States. In Japan for research use only.

Helicobacter pylori quick test

RESULTS IN 2-30 MIN FROM BIOPSY

Easy testing from a biopsy specimen

Helicobacter pylori quick test is a one-step test method to detect *H. pylori* infection from a biopsy sample during gastroscopy. *Helicobacter pylori* quick test can be used to diagnose *H. pylori* infection or to determine the success of eradication therapy. The positive results for *H. pylori* are ready in a few minutes, and the final confirmation of a negative test result is ready in just 30 minutes.

Using *Helicobacter pylori* quick test is an easy one-step procedure. The biopsy specimen is immersed into the gel medium, and if *H. pylori* urease is present in the specimen, a red color develops in the gel. Interpretation of the indicator color is simple and does not require any specialist training.

Helicobacter pylori quick test		
REF	Product	Qty
602015	*Helicobacter pylori* quick test	50 tests
602017	BIOHIT *Helicobacter pylori* Control	1

In the United States and Japan for research use only.

Helicobacter pylori quick test

- Testing and reporting during gastroscopy
- One-step test procedure
- Positive results in 1-2 min (neg. max 30 min)

Lactose Intolerance quick test

Confirmed results during gastroscopy

Lactose Intolerance quick test detects all types of lactase deficiency from biopsy specimens. This gives added value to gastroscopies with minimum effort. The test is based on the normal lactase enzyme reaction and is therefore able to detect lactase deficiency as well as indicate the functionality of the enzyme. The lactose intolerance quick test is not only a sensitive diagnostic tool, but it has also been found to be more accurate than lactose breath test in predicting clinical response to lactose-free diet.

Lactose Intolerance quick test		
REF	**Product**	**Qty**
602010	Lactose Intolerance quick test	25 tests
602012	Lactose Intolerance quick test	10 tests
602018	BIOHIT Lactase Control	

In the United States and Japan for research use only.

Easy testing from a duodenal biopsy specimen

The test procedure of Lactose Intolerance quick test is fast and simple. The biopsy specimen is placed in the test plate and test reagents are added on the sample. Clear color change indicates the test result within 20 minutes enabling testing and reporting during one visit.

Lactose Intolerance quick test

- Results in 20 minutes
- Simple color chart interpretation
- All reagents ready-to-use
- Sensitivity 95 %, specificity 100 %
- Superior sensitivity compared to lactose breath test

Acetaldehyde Binding Products

- Acetium® lozenge - quit smoking
- Acetium® capsule

Acetaldehyde

Group I human carcinogen that we are exposed to every day

Group I carcinogen

The World Health Organization (WHO) has classified acetaldehyde contained in alcoholic beverages and endogenously produced from alcohol as a Group I human carcinogen. This means that acetaldehyde is in the same group as asbestos and tobacco. Continuous exposure to acetaldehyde increases the risk of cancer.

Where is acetaldehyde present?

Alcohol and tobacco are the major sources of acetaldehyde. Acetaldehyde is the most significant byproduct of alcohol metabolism and one of the most harmful substances in tobacco smoke.

In addition, acetaldehyde is present in foods. It is particularly abundant in food produced by fermentation, such as alcoholic beverages, vinegar, dairy products, home-brewed beer and mead. In some foods, acetaldehyde occurs naturally, such as in fruits and fruit-based products.

Due to its pleasant fruity smell, acetaldehyde is also used as a flavoring in the manufacture of yoghurts, sweets, pastries, fruit juices and alcoholic beverages.

Acetaldehyde in the mouth and stomach

Acetaldehyde in tobacco smoke dissolves easily in saliva and is distributed along the throat to the stomach. Another significant source of acetaldehyde in the body is microbial metabolism.

The normal microbial growth of the body produce acetaldehyde by oxidizing ethanol and by fermentation from sugar. Oral microbes (yeasts and bacteria) belonging to the normal microbial growth of the mouth are constantly distributed in the stomach with saliva. In a normal, healthy stomach, hydrochloric acid (HCl) can kill the microbes. In some people, acid-producing cells of the mucous membrane of the stomach disappear due to atrophy of the mucous membrane (a condition called atrophic gastritis), and therefore microbes are able to multiply in the stomach and produce acetaldehyde. People who have taken antacid medicines for a long time to treat acidic stomach conditions are also at risk of microbial growth in the stomach. Unlike the liver, the mucous membrane of the digestive tract and the microbes of the stomach are not able to process acetaldehyde and turn it into acetic acid and water. Therefore, an abundance of acetaldehyde accumulates in the saliva, anacidic stomach, and the lower digestive tract.

Helicobacter pylori is capable of surviving in acidic stomach and an atrophic gastritis of the stomach mucosa is usually caused by a chronic *H. pylori* infection. In addition, *H. pylori* produces acetaldehyde.

Millions are among the risk groups

People in certain risk groups are significantly more exposed to acetaldehyde than others. If you belong to one of the following groups, acetaldehyde is an increased risk factor to your health:

- You smoke
- You suffer from an acid-free or a low-acid stomach
- You use acid-suppression medicines to treat heart burn or upper abdominal distress and pain
- You suffer from chronic *H. pylori* infection

Acetium® lozenge - quit smoking

Helps quit smoking - nicotine free!

Acetium® lozenge - quit smoking

Acetium® lozenge is a nicotine-free smoking intervention product intended for those who want to quit smoking. It is easy to use: take one lozenge with every cigarette smoked. Smoking cessation with Acetium takes in average 3-6 months of regular use. Regular use of Acetium reduces the pleasure of smoking and changes the taste of the cigarette, therefore helping to quit smoking.

Acetium lozenge contains L-cysteine, which is a natural amino acid. L-cysteine effectively binds the cigarette smoke derived acetaldehyde from saliva.

L-cysteine removes up to 90 % of the acetaldehyde dissolved into saliva during smoking. The lozenge dosage is 1 or 2 lozenges during smoking. The recommended maximum daily dose is 40 lozenges.

Acetium® lozenge - quit smoking		
REF	Product	Qty
620430	Acetium® lozenge - quit smoking	10 x 30 lozenges

Not available in the United States.

- Removes acetaldehyde from saliva during smoking.
- Sensations of smoking changed during intervention.
- Tooth-friendly, contains xylitol. Poor oral hygiene in creases local acetaldehyde formation.

CE MD

Acetium® lozenge is a breakthrough in smoking cessation therapy:

- Acetium does not contain nicotine nor maintain addiction to nicotine
- Acetium contains only safe ingredients that are commonly found in foods
- Acetium is devoid of the side effects of conventional smoking intervention methods (such as nicotine dependence and possible adverse side effects of medicines)

Acetium® capsule

Protects stomach

Suitable *e.g.*, for PPI users

Acetium® capsule protects the gastric mucosa from acetaldehyde in people who have an acid-free stomach. Acetium capsules contain L-cysteine, which is a natural amino acid. L-cysteine effectively binds acetaldehyde locally in stomach. The World Health Organization (WHO) has classified acetaldehyde contained in alcoholic beverages and endogenously produced from alcohol as a Group I human carcinogen.

If you are taking antacid medicines on a regular basis or suffering from an anacidic stomach, the bacteria and yeasts from the mouth can live in the stomach. These bacteria and yeasts produce acetaldehyde every time you consume alcoholic beverages and food that contains alcohol or sugar.

*Helicobacter pylor*i is capable of surviving even in acidic stomach and an acid-free stomach due to atrophic gastritis of the stomach mucosa is usually caused by a chronic *Helicobacter pylori* infection. In addition, *H. pylori* produces acetaldehyde.

Acetium® capsule		
REF	**Product**	**Qty**
620140	Acetium 100 mg fi-sv-en	4 x 15 blisters
620095	Acetium 100 mg ita-ger-fra	4 x 15 blisters

Not available in the United States.

Acetium® capsule

- Protects the stomach, especially if you are suffering from an anacidic (low- or no-acid) stomach or taking antacid medicines
- Effectively removes acetaldehyde when taken during meals and alcohol consumption

CE 0537 MD

Acetaldehyde is an increased risk factor to your health if:

- you are suffering from an anacidic (low- or no-acid) stomach
- you are taking antacid medication (PPI or H2 blockers)
- you are suffering from a chronic *H. pylori* infection

The innovation of Acetium slow release formula effectively binds acetaldehyde locally in stomach.

Monoclonal Antibodies

Specificity	Clone#	Host	Subclass	Format	Qty*	Applications**	Paraffin**	Ordering#
Monoclonal Antibodies to Human Gastric Biomarkers								
Pepsinogen I	4C6.1	mouse	IgG1	purified	100µg	IHC	yes	610055
Pepsinogen II	L10CC10	mouse	IgG1	purified	100µg	IHC	yes	610056
Monoclonal Antibodies to Phytoestrogen								
Genistein	L22FA2	mouse	IgG1	purified	100µg	EIA, FIA	-	610058
Monoclonal Antibodies to Human Extracellular Matrix Components								
Cellular Fibronectin (cFn)	DH1	mouse	IgG1	purified	100µg	IHC, WB, EIA	no	610001
Tenascin-C	EB2	mouse	IgG1	purified	100µg	IHC, WB, EIA	no	610002
Tenascin-C	DB7	mouse	IgG2a	purified	100µg	IHC, WB	yes	610003
Laminin ($ß_1$-chain)	DG10	mouse	IgG1	purified	100µg	IHC, WB	no	610004
Laminin (γ_1-chain)	BC7	mouse	IgG1	purified	100µg	IHC, IP	no	610005
Plasma Fibronectin (pFn)	BF12	mouse	IgG1	purified	100µg	IHC, WB	no	610006
Vitronectin	BE10	mouse	IgG1	purified	100µg	IHC, WB	no	610007
Monoclonal Antibodies to Human Integrins								
$ß_1$-Integrin	DF5	mouse	IgG1	purified	100µg	IHC, WB	yes	610008
$ß_1$-Integrin	DF7	mouse	IgG1	purified	100µg	IHC, WB	yes	610009
$ß_3$-Integrin	BB10	mouse	IgG_1	purified	100µg	IHC, WB	no	610010
α_{IIb}-Integrin	CA3	mouse	IgG_1	purified	100µg	IHC, WB	no	610011
Monoclonal Antibodies to Human Endothelial Cell Surface marker								
PECAM-1	CE6	mouse	IgG_1	purified	100µg	IHC, WB	no	610027
Monoclonal Antibodies to Human Neurotransmitter Substances								
GABA	5A9	mouse	IgG_1	purified	100µg	IHC, EIA	yes	610025
CGRP	CD8	mouse	IgG_1	purified	100µg	IHC, WB, EIA	yes	610026
Monoclonal Antibodies to Human Cytoskeletal Polypeptides								
α-Actinin	CB11	mouse	IgG_1	purified	100µg	IHC, WB	no	610012
α-Fodrin	AA6	mouse	IgG_1	purified	100µg	IHC, WB	no	610013
Vinculin	FB11	mouse	IgG_1	purified	100µg	IHC, WB	no	610014
Cytokeratin 18	4B11	mouse	IgG_1	purified	100µg	IHC, WB, IP	no	610015
Cytokeratin 8, 18, 19	2A4	mouse	IgG_1	purified	100µg	IHC, WB	no	610016
Cytokeratin 7, 17, 19	4F5	mouse	IgG_1	purified	100µg	IHC, WB	no	610017
Vimentin	65E	mouse	IgG_1	purified	100µg	IHC, WB	no	610018
Neurofilaments 150, 200	13AA	mouse	IgG_1	purified	100µg	IHC, WB	no	610021
Neurofilaments 70, 200	14BA	mouse	IgG_1	purified	100µg	IHC, WB	no	610022
Monoclonal Antibodies to Human Spectrins								
Erythroid α-Spectrin	AF10	mouse	IgG_1	purified	100µg	IP, WB, IHC	no	610023
Erythroid ß-Spectrin	DB2	mouse	IgG1	purified	100µg	IP, WB, IHC	no	610024

MAbs in other concentrations and in different buffer systems are available at request.
**Other sizes available at request*
***The Biohit monoclonal antibodies are applicable in: IHC = Immunohistochemistry, WB = Western Blotting, FIA = Time-resolved Fluorescence Immunoassay, IP = Immunoprecipitation, EIA = Enzyme Immunoassay*
**** Reactivity with paraffin sections*

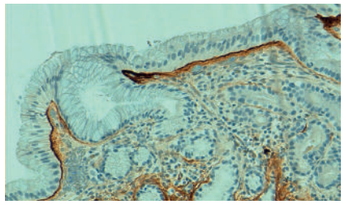
Human Gastric Biomarkers

Pepsinogen I

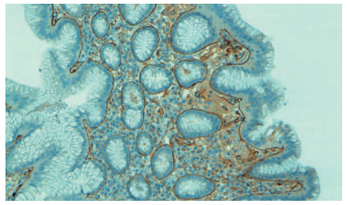
Pepsinogen I is a group of precursor molecules for pepsin. These proteins are solely synthetized and secreted into gastric lumen by chief (pepsin) cells and mucous neck cells in the gastric corpus (oxyntic mucosa). In atrophic corpus gastritis these cells disappear resulting in a decrease of the serum level of pepsinogen I and in a reduction of the number of pepsinogen I positive cells in gastric biopsies. The presence of positive immunostaining for pepsinogen I is a highly reliable sign for the acid-secreting oxyntic glands. In gastric heterotopia of the duodenal bulb, but not in gastric metaplasia, the oxyntic-type glands give a positive immunohistochemical reaction for pepsinogen I.

Pepsinogen II

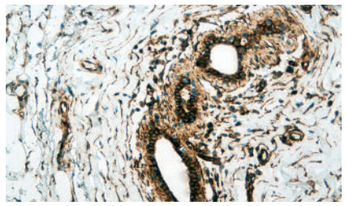
Pepsinogen II is a group of precursor molecules for pepsin. These proteins are secreted into the gastric lumen by the pyloric glands of the gastric antrum and also by the chief and neck cells of the gastric corpus (oxyntic mucosa). Negative immunohistochemical reaction for pepsinogen I (right) but positive reaction for pepsinogen II (left) is a typical sign of the antral mucosa and, in the presence of atrophic gastritis, this staining pattern indicates that the positive glands and cells are metaplastic and "pyloric" in differentiation (so called pseudopyloric metaplasia).



Tenascin-C



β1-Integrin



α- Fodrin (normal breast)

Human Extracellular Matric Components

The extracellular matrix (ECM) consists of interstitial connective tissue and basement membrane (BM). The ECM acts as a backbone for cells and provides a physical barrier. It also influences such as cell proliferation, differentiation, adhesion, migration, gene expression, and tissue integrity.

ECM also plays a profound role in tissue injury and healing. The detection of ECM components in various parts of the body provides an efficient tool for following malignant change, invasion and metastasis. Biohit provides monoclonal antibodies to: **Fibronectins, Tenascin, Laminins and Vitronectin**.

Human Integrins

Integrins are the largest known family of receptors for ECM proteins. They are glycoproteins that mediate cell-extracellular matrix as well as cell-cell interactions. Integrins consist of several protein subfamilies that share a common β-subunit and have a distinct α-subunit. Monoclonal antibodies to **β1-Integrin** and **β3-Integrin** as well as to **α_{IIb}-Integrin** are offered by Biohit.

Human Cytoskeletal Polypeptides

The cytoplasmic cytoskeleton determines cell organization, shape and adhesion among other functions. Furthermore, the cell type-specific expression of intermediate filaments allows determination of the origin of many, otherwise unspecific tumours. Biohit offers monoclonal antibodies to the following cytoskeletal peptides: **α-Actinin, α-Fodrin, Cytokeratin 18, Cytokeratin 8, 18, 19, Cytokeratin 7, 17, 19, Neurofilament 70, 200, Neurofilament 150, 200, Vinculin and Vimentin**.

Human Spectrins

Erythroid spectrins, some other proteins of erythroid cytoskeleton, and the transmembrane protein band 3 are highly specific for erythrocytes and their progenitors. They are more reliable markers for erythroid differentiation than Glycophorin A, the commonly used marker for erythroid differentiation, because Glycophorin A is expressed also in many cell lines otherwise exhibiting mainly megacaryotic characteristics. Both **erythroid α-spectrin** and **erythroid β-spectrin** monoclonal antibodies can be used for example in identification of erythroid leukemias.

Human Neurotransmitter Substances

Neural and neuroendocrine cells are able to synthesize a variety of peptides as well as amino acids that can function either as inhibitory or stimulatory substances in neurotransmission. Such neurotransmitter substances are **gamma aminobutyric acid (GABA)** and **calcitonin gene-related peptide (CGRP)**.

Human Endothelial Cell Surface Marker

The endothelium is the thin layer of cells that lines the interior surface of blood vessels forming an interface between circulating blood in the lumen and the rest of the vessel wall. These cells are called endothelial cells. Platelet endothelial cell adhesion molecule (**PECAM-1**) is an antigen, which is typically shared by both endothelial and distinct hematopoietic cells. It is widely expressed among leukocytes and functions as a cell adhesion molecule.

Phytoestrogen

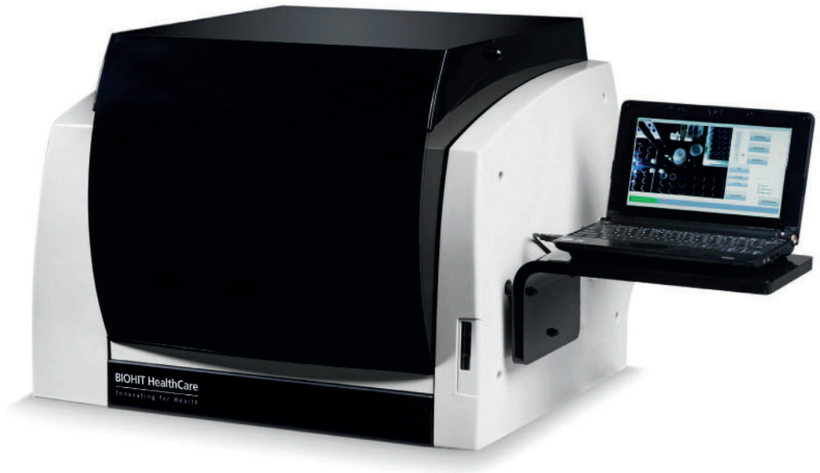
Genistein is an isoflavone belonging to the group of phytoestrogens (plant estrogens), which have been implicated in the prevention of cancer, cardiovascular and other chronic diseases. The main source of genistein is the soybean and various soy foods. Its determination in biological fluids and tissues by immunoassay is of increasing importance and for that purpose a specific antiserum is now available.

MAbs in other concentrations and in different buffer systems are available at request.

Instruments

- BIOHIT Automated Immunoassay Analyzer
- Dynex Automated Systems

BIOHIT Automated Immunoassay Analyzer



The instrument is full of unique features such as intelligent racks, high precision liquid handler, orbital MTP shaker, build-in barcode reader, convection incubator, on-board camera. The analyzer provides complete, walk-away automation of up to 192 patient samples. It has a smallest footprint on any comparable instrument and therefore can be placed on a standard 60 cm lab table. Completely open architecture allows any ELISA protocol to be programmed and run on up to eight different assays simultaneously. The CLIA option enables the platform to process chemiluminescence assays as well.

BIOHIT Automated Immunoassay Analyzer provides compact, cost-efficient and completely open system to automate GastroPanel or any other EIA assays.

Proven technology suitetable for various applications.

Instruments	
REF	**Product**
742000	Automated Immunoassay Analyzer
742001	Automated Immunoassay Analyzer (with CLIA-option)

Biohit Automated Immunoassay Analyzer is manufactured by Gold Standard Diagnostics Inc.

Automated Immunoassay Analyzer

- Fully open system
- Smallest footprint, lightest in weight
- Up to 8 assays simultaneously
- 16 custom reagent positions
- Intelligent racks providing 192 sample positions
- Built-in EIA/CLIA reader
- Orbital shaker
- High precision Micro-Syringe
- Convection incubator
- Integrated barcode reader
- Sliding sample tray
- On-board camera
- Intelligent, intuitive and adaptable software
- In-build LIMS support

Dynex Automated Systems

Dynex DS2®

Designed with full walkaway capability, DS2® quickly and easily processes two 96-well microplates and up to 12 different assays simultaneously. The system also features a user-friendly control system, chain of custody management and on-board instrument diagnostics.

Instruments	
REF	**Product**
742300	DS2® Automated 2-plate System with incubators
742301	DS2® Automated 2-plate System with incubators and Bar code reader

DS2 is manufactured bt Dynex Technologies

DS2® delivers sample-in/results-out automation of microplate assays:

- Sample dilution and distribution
- Incubation, washing and reagent dispensing
- Reading with automatic data reduction and quality control
- Automatic barcode scanning

The flexible, open system design of DS2 is ideal for virtually any ELISA application, such as GastroPanel from Biohit.

Dynex Automated Systems

- User friendly graphical software
- 2-position incubator
- Slide-in sample racks, max 100 samples per run
- Disposable tips (max. 216 + 20 pcs)
- 12x8 DW predilution strips
- Linear shaker 14-20 Hz
- 4-assays per plate
- 8-channel washer
- Option: integrated bar code reader, LIMS-interface software

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Notes

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