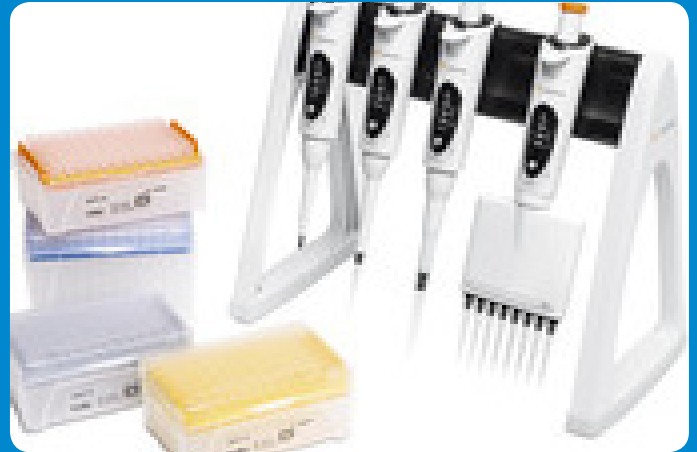


GastroPanel® Laboratory

Everything to perform GastroPanel® and any other microplate diagnostics.
Reagents, equipment, instruments and training.



The GastroPanel® Laboratory delivered on the turnkey basis is capable of performing any microplate diagnostics, e.g., for cancer and infectious diseases.

The multichannel pipetting and the vertical light beam measurement for 96-well microplate readers and analyzing systems are Finnish inventions that revolutionized laboratory routines worldwide since the 1970s. These inventions have been utilized in research and development of microplate diagnostics so extensively that they can justifiably be called global industrial standards.

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

Biohit offers four different-sized complete GastroPanel® Laboratories for performing GastroPanel® biomarkers. Unique GastroPanel® allows fast diagnosis and screening of dyspepsia, *Helicobacter pylori*, atrophic gastritis with related risks, such as gastric and esophageal cancer and deficiency of B12 vitamin, as well as high acid output of stomach in symptomatic and asymptomatic patients.

GastroPanel® speeds up the referral to further examinations and even life saving early diagnosis. GastroPanel® findings - i) symptomatic *Helicobacter pylori* infection, ii) atrophic gastritis or iii) symptomatic high acid output are indications for gastroscopy and biopsy examination. In diagnosing dyspepsia and *Helicobacter pylori* with GastroPanel® one can avoid severe limitations and errors of conventional helicobacter tests (e.g. 13C-urea breath test and stool antigen test). Atrophic gastritis and its risks, such as gastric cancer, as well as high acid output of stomach remain undiagnosed with the conventional helicobacter tests (1,12).

In addition to GastroPanel® examinations, GastroPanel® Laboratory is also suitable for the running of any other microplate-based diagnostic tests. GastroPanel® Laboratories are solutions to unmet needs of private doctors, health centers, reference and service laboratories as well as research institutions and hospitals.

GastroPanel® Laboratory, Small

- GastroPanel® tests for up to 2.200 patients
- Two Microplate Photometers including software
- Two Microplate Washers
- Pipettes and disposables
- Installation and training

GastroPanel® Laboratory, Medium

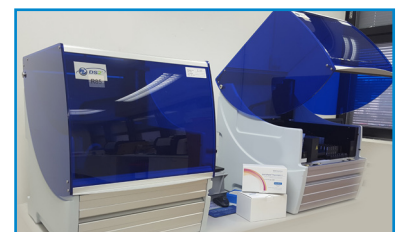
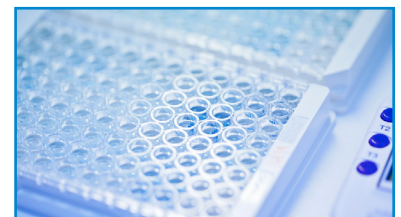
- GastroPanel® tests for up to 4.400 patients
- One fully automated microplate ELISA analyzer
- Pipettes and disposables
- Installation and training

GastroPanel® Laboratory, Large

- GastroPanel® tests for up to 8.800 patients
- Two fully automated microplate ELISA analyzers
- Pipettes and disposables
- Installation and training

GastroPanel® Laboratory, Extra Large

- GastroPanel® tests for up to 88.000 patients
- Four fully automated microplate ELISA analyzers
- Pipettes and disposables
- Installation and training



Literature

1. <https://www.biohithealthcare.com/additional-information>
2. Suovaniemi O. State of the art GastroPanel and Acetium innovations for the unmet need. <https://www.biohithealthcare.com/Scientific>.
3. <https://www.gastropanel.com/decision-makers/screening-model>
4. Varis K, Sipponen P, Laxén F, Samloff M, Huttunen JK, Taylor PR, Heinonen OP, Albanes D, Sande N, Virtamo J, Härkönen M & the Helsinki Gastritis Study Group. Implications of Serum Pepsinogen I in Early Endoscopic Diagnosis of Gastric Cancer and Dysplasia. *Scan J Gastroenterol* 2000;35:950-956.
5. Väänänen H, Vauhkonen M, Helske T, Kääriäinen I, Rasmussen M, Tunturi-Hihnala H, Koskenpato J, Sotka M, Turunen M, Sandström R, Ristikankare M, Jussila A, Sipponen P. Non-Endoscopic Diagnosis of Atrophic Gastritis with a Blood Test. Correlation between Gastric Histology and Serum Levels of Gastrin-17 and Pepsinogen I. *A Multicentre Study. Eur J Gastroenterol Hepatol* 2003; 15: 885-891.
6. Sipponen P, Graham DY. Importance of atrophic gastritis in diagnostics and prevention of gastric cancer: application of plasma biomarkers. *Scand. J. Gastroenterol.* 2007;42 (1);2-10.
7. Storskrubb T, Aro P, Ronkainen J, Sipponen P, Nyhlin H, Talley NJ, Engstrand L, Stolte M, Vieth M, Walker M and Agréus L. Serum biomarkers provide an accurate method for diagnosis of atrophic gastritis in a general population: The Kalixanda study. *Scand J Gastroenterol*, 2008; 43:1448-1455.
8. Agréus L, Kuipers EJ, Kupcinskas L, Malfertheiner P, Di Mario F, Leja M, Mahachai V, Yaron N, van Oijen M, Perez Perez G, Rugge M, Ronkainen J, Salaspuro M, Sipponen P, Sugano K, Sung J. Rationale in diagnosis and screening of atrophic gastritis with stomach-specific plasma biomarkers, *Scandinavian Journal of Gastroenterology* 2012; 47: 136-147
9. Syrjänen K. Role of serological biomarker testing [GastroPanel®] in diagnosis of symptomatic dyspepsia and in screening of the risks of stomach cancer. *EC Gastroenterol Digest Syst* 2017;1(6):209-222.
10. Aine R, Kahar E, Aitokari K, Salminen J, Eklund C, Paloheimo L, Peetsalu A, Syrjänen K. Atrophic gastritis (AG) and its clinical sequels among elderly people in Finland and Estonia. A comparative study using GastroPanel and B12-vitamin testing of the residents in assisted-housing facilities. *J Aging Res Clin Pract* 2016;5:194-202.
11. Vohlonen I, Pukkala E, Malila N, Härkönen M, Hakama M, Koistinen V, Sipponen P. (2016) Risk of gastric cancer in *Helicobacter pylori* infection in a 15-year follow-up, *Scandinavian Journal of Gastroenterology*, 51:10, 1159-1164, DOI:10.1080/00365521.2016.1183225, <http://dx.doi.org/10.1080/00365521.2016.1183225>
12. Syrjänen K. Caveats in diagnosis of *Helicobacter pylori* infection can be avoided by a panel of serum biomarkers (GastroPanel®). *J Carcinog Mutagen* 2017;7(6), e123. doi:10.4172/2157-2518.1000e123