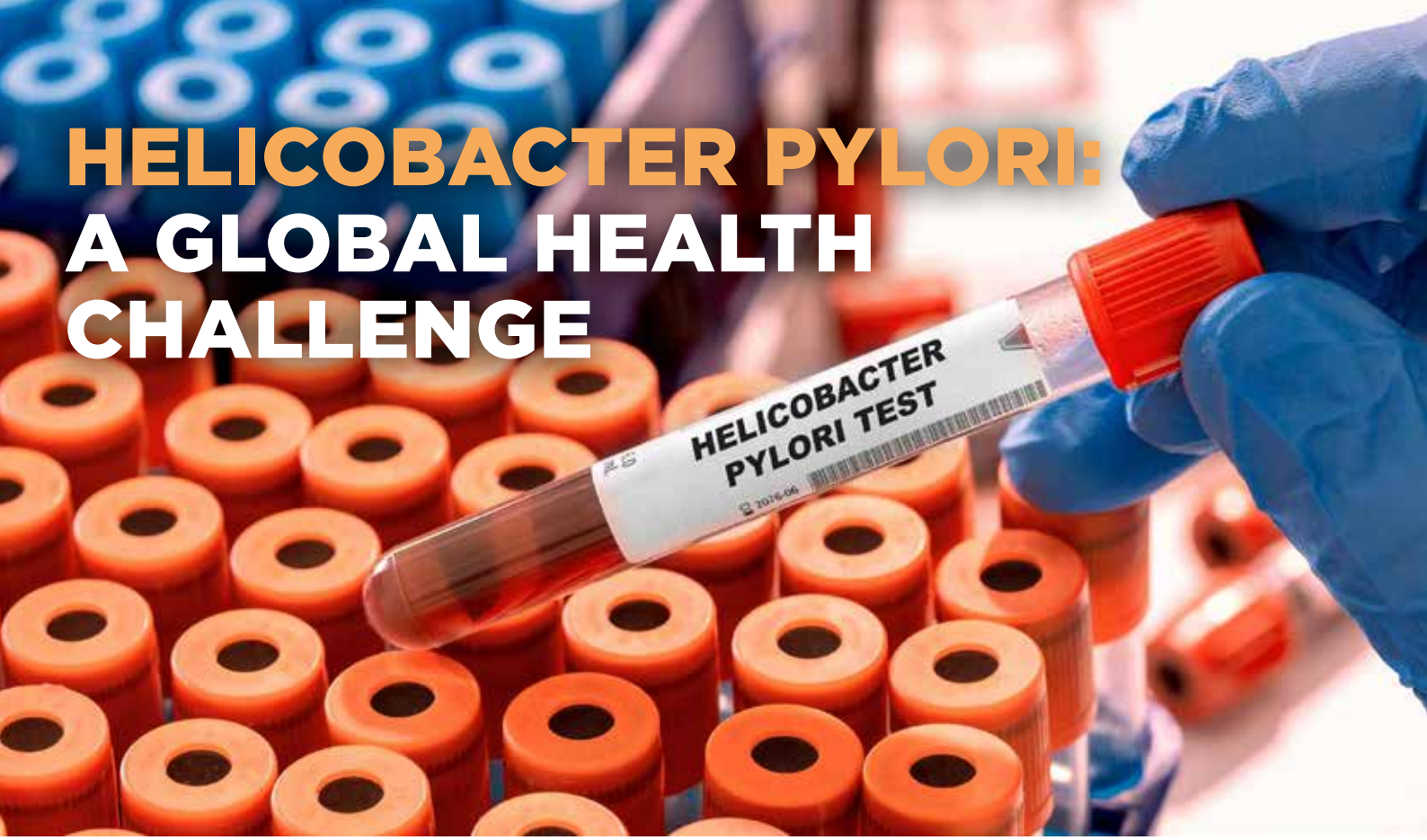

HELICOBACTER PYLORI: A GLOBAL HEALTH CHALLENGE

Detect and diagnose:
antigen and antibody testing for accurate Helicobacter pylori detection.

Helicobacter pylori is a type of bacteria that infects the stomach lining and is a common cause of peptic ulcers. It is estimated that over half of the world's population carries *H. pylori*, although many individuals remain asymptomatic. The bacterium is typically transmitted through contaminated food, water, or close contact with an infected person. Infection with *H. pylori* can lead to chronic inflammation, increasing the risk of developing gastric cancer and other gastrointestinal disorders. Diagnosis is crucial for effective treatment, which usually involves a combination of antibiotics and acid-reducing medications.[1,2,3]

Helicobacter pylori is diagnosed using non-invasive methods like the urea breath test, the stool antigen test, which detects bacterial proteins in fecal samples as well as antibody testing or invasive methods like endoscopy with biopsy.[4,5]

Testing for *Helicobacter pylori* using both antigen and antibody methods is important for several reasons:

- **Comprehensive diagnosis**: Combining antigen and antibody tests provides a more comprehensive assessment of *H. pylori* infection. Antibody tests can indicate past or present exposure, while antigen tests can confirm active infection by detecting the presence of bacterial proteins in stool samples.
- **Improved accuracy**: Using both testing methods can improve diagnostic accuracy. Antibody tests alone may not distinguish between past and current infections, whereas antigen tests can confirm active infection, reducing the likelihood of false positives.
- **Guiding treatment decisions**: Accurate diagnosis is crucial for determining the appropriate treatment. Confirming an active infection with antigen testing ensures that patients receive necessary antibiotic therapy, while antibody testing can help identify individuals who have been exposed and may require further evaluation.
- **Monitoring treatment efficacy**: Antigen testing can be used to monitor the effectiveness of treatment by confirming the eradication of the bacteria after therapy, ensuring that the infection has been successfully cleared.
- **Public health implications**: Understanding the prevalence and transmission of H. pylori in a population can help guide public health strategies. Comprehensive testing can provide valuable data for epidemiological studies and inform efforts to reduce infection rates.

Product name	Catalogue No.	Specifications	Reg. status
Helicobacter pylori IgA	RE56371	Antigen: CagA (cytotoxin associated proteins) and VacA (Vacuolating cytotoxin)	CE IVD
Helicobacter pylori IgG	RE56381		CE IVD
Helicobacter pylori IgM	RE56391	High diagnostic sensitivity and specificity of IgG ELISA proven in external method comparison (AFSSAPS, France)	CE IVD
Fecal Helicobacter-Antigen	RE58891	Fecal sample type	CE IVD

Antibody testing advantages:

1. **Non-invasive**: Requires only a blood sample, making it easy and comfortable for patients.
2. **Simple and accessible**: Easy to administer and widely available in various healthcare settings.
3. **Cost-effective**: Generally more affordable than other diagnostic methods, suitable for initial screening.

Antigen testing advantages:

1. **Detects active infection**: Confirms the presence of an active H. pylori infection by identifying bacterial proteins in stool samples.
2. **Non-invasive**: Involves a simple stool sample collection, avoiding more invasive procedures.
3. **Useful for treatment monitoring**: Can be used to verify the eradication of the bacteria after treatment, ensuring successful therapy.

Testing for *Helicobacter pylori*, even without symptoms, can prevent serious complications like peptic ulcers and gastric cancer by enabling early detection and treatment. It also helps reduce the spread of the infection, particularly in high-prevalence areas, by identifying asymptomatic carriers.

Proactive health: accurate *Helicobacter Pylori* diagnostics for early detection.

Tecans reliable diagnostic solutions offer precise detection of *Helicobacter pylori*, enabling early intervention to prevent complications like inflammation and stomach ulcers.

Literature

1. Suerbaum, S., & Michetti, P. (2002). Helicobacter pylori infection. New England Journal of Medicine, 347(15), 1175-1186.
2. Kusters, J. G., van Vliet, A. H., & Kuipers, E. J. (2006). Pathogenesis of Helicobacter pylori infection. Clinical Microbiology Reviews, 19(3), 449-490.
3. Hooi, J. K. Y., Lai, W. Y., Ng, W. K., Suen, M. M. Y., Underwood, F. E., Tanyingoh, D.,. .. & Ng, S. C. (2017). Global prevalence of Helicobacter pylori infection: systematic review and meta-analysis. Gastroenterology, 153(2), 420-429.
4. Chey, W. D., Leontiadis, G. I., Howden, C. W., & Moss, S. F. (2017). ACG clinical guideline: Treatment of Helicobacter pylori infection. American Journal of Gastroenterology, 112(2), 212-239.
5. Chey, W. D., & Wong, B. C. (2007). American College of Gastroenterology guideline on the management of Helicobacter pylori infection. The American Journal of Gastroenterology, 102(8), 1808-1825.

FL 403226 V1.0 2025 02

Learn more on
tecan.com/ibl

www.tecan.com/ibl

TECAN.