Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Diabact UBT 50 mg tablets

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each tablet contains ^{13}C Urea 50 mg enriched stable isotope.

For the full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Tablets.
A white, round convex tablet.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

This medicinal product is for diagnostic use only.

For *In vivo* diagnosis of gastroduodenal primary or remaining *Helicobacter pylori* infection.

4.2 Posology and method of administration

Diabact UBT tablet is for oral administration.

One tablet as a single dose at one test occasion. The patient should fast for at least six hours preceding the test. An initial breath test sample is taken after which the tablet is swallowed whole with a glass of water. A breath sample is taken after ten minutes.
It is important to follow the instructions for use, described in section 6.6.

4.3 Contraindications

The test must not be used in patients with documented or suspected gastric infection that might interfere with the urea breath test.
Hypersensitivity to the active substance or to any of the excipients listed in section 6.1.

4.4 Special warnings and precautions for use

A positive urea breath test alone does not clinically confirm that eradication therapy is indicated. Alternative diagnosis with invasive endoscopic methods might be indicated in order to examine the presence of any other complicating conditions, eg. gastric ulcer, autoimmune gastritis and malignancies.

The tablet must be swallowed whole. If the patient chews the tablet, the test must be performed again as the risk of false positive results increase. A new test may be performed the following day.

There are insufficient data to recommend the use of Diabact UBT in patients with partial gastrectomy and in patients younger than 18 years.

4.5 Interaction with other medicinal products and other forms of interactions

The validity of the test result may be affected if the patient is currently being treated with antibiotics or a proton-pump inhibitor or has completed a course of treatment with these drugs. The results may be affected in general by all treatments interfering with *H. pylori* status or urease activity.

Suppression of *H. pylori* may lead to false negative results. Therefore, the test must not be used until after at least four (4) weeks after systemic antibacterial therapy and at least two (2) weeks after last dose of acid antisecretory agents. This is especially important after eradication therapy.

4.6 Fertility, pregnancy and lactation

Pregnancy and breastfeeding
The endogenous production of urea amounts to 25 – 35 g/day. It is therefore unlikely that the dose of 50 mg urea should cause any adverse effects on pregnancy and lactation.

The Diabact UBT test is not expected to be harmful during pregnancy or to the health of the foetus/newborn child. Diabact UBT can be used during pregnancy and lactation.

4.7 Effects on ability to drive and use machines

Diabact UBT has no known or negligible influence on the ability to drive or to use machines.

4.8 Undesirable effects

Isolated reports of stomach pain, fatigue and distortion of the sense of smell (parosmia) have been reported in one clinical trial.

Reporting of suspected adverse reactions
Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions viaHPRA Pharmacovigilance, Earlsfort Terrace, IRL – Dublin 2; Tel: +353 1 6764971; Fax: +353 1 6762517; Website: http://www.hpra.ie/; E-mail: medsafety@hpra.ie.

4.9 Overdose

Overdose is unlikely to occur in the intended clinical circumstances. No case of overdose has been reported.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Other diagnostic agents, ATC code: V04C X05

Mechanism of action
After oral ingestion, ^{13}C-urea labelled urea tablets will rapidly disintegrate on reaching the stomach. In the case of infection with *H. pylori*, ^{13}C-urea is metabolised by the enzyme urease of *H. pylori*.

$$H_2N(^{13}CO)NH_2 + H_2O \xrightarrow{\text{Enzyme urease}} 2NH_3 + {}^{13}CO_2$$

The carbon dioxide which is liberated diffuses into the blood vessels and is transported as bicarbonate to the lungs where it is then liberated as $^{13}CO_2$ in exhaled air. Infection with *H. pylori* will significantly change the $^{13}C/^{12}C$ – carbon isotope ratio. The proportion of $^{13}CO_2$ in the breath samples is determined by isotope-ratio-mass spectrometry (IRMS) or by another suitably-validated method carried out by any qualified laboratory and stated as an absolute difference (excess) in the value between a pre-urea and post-urea breath sample (see section 6.6).

The cut off point for discriminating between *H. pylori* positive and negative patients is based on a study with 885 patients. Values below 1.5‰, i.e. ≤1.5‰ are diagnosed as negative and values above i.e. >1.5‰ are diagnosed as positive.

In order to determine test performance and to fulfil lack of direct comparison vs Standard of Truth (SoT) at the registered dose, a simulation analysis was carried out based on two comparative studies: the sensitivity was 94.3% (95% CI = [85.1% -98.5%])

and specificity was 97.1% (95% CI = [92.4% -99.2%]). The accuracy was 96.2% (95% CI = [92.2-98.5%]) and with the PPV (positive predicted value) of 94.0% (95% CI = [84.6-98.3%]) and NPV (negative predicted value) 97.3% (95% CI = [92.7-99.3%]).

5.2 Pharmacokinetic properties

Absorption
Urea is rapidly absorbed from the gastro-intestinal tract.

Distribution
Urea is distributed into extracellular and intracellular fluids including lymph, bile, cerebrospinal fluid and blood. It is reported to cross the placenta and penetrate the eye.

Elimination
Urea is excreted unchanged in the urine.

5.3 Preclinical safety data

There are no risks relevant for the clinical use of the product.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Citric Acid, Anhydrous
Silica, Colloidal Anhydrous
Croscarmellose Sodium
Microcrystalline Cellulose
Magnesium Stearate
Talc

6.2 Incompatibilities

Not applicable.

6.3 Shelf life

4 years

6.4 Special precautions for storage

Do not store above 25^{o}C. Store in the original package in order to protect from light.

6.5 Nature and contents of container

Diabact UBT pack sizes:
1 tablet in aluminium blister, 2 sampling tubes with blue stopper and 2 sampling tubes with red stopper, 1 disposable straw and extra bar code labels.

10 x 1 tablets in aluminium blister (tablets only).

Not all pack sizes may be marketed.

6.6 Special precautions for disposal and other handling

The test should be performed in the presence of a qualified person.

If the test is to be carried out in the morning, the patient should fast overnight and not eat breakfast. If the test is to be carried out later in the day, or if fasting is a problem for the patient, then a light breakfast only, e.g. tea and toast, is recommended. If the patient has eaten a heavy meal then it will be necessary to fast for six hours prior to the test.

The collection of breath samples can be performed using tubes or breath bags. Breath bags are provided separately.

Handle sampled tubes and breath bags with care and avoid any damage which may cause leakage.

Stepwise description of the test procedure using tubes

To perform the test, 4 test tubes with stoppers and 1 straw are used.

Keep one of the extra bar code labels as a reference label for the patient journal.

1. The patient should begin the procedure by exhaling into the two baseline (00-MINUTES) tubes (blue stopper)
2. Unscrew the stopper and place the straw in the bottom of the test tube.
3. Take a deep breath and exhale gently into the tube.
4. Remove the straw from the tube and close the tube with the stopper. Check that the stopper is properly closed.
5. Repeat the test with the other 00-MINUTES test tube
6. Swallow the tablet with a glass of water. Wait for 10 minutes in an upright position (standing or sitting position).
7. Exhale into the two 10-MINUTES tubes (red stopper) in the same way as described above.

After the test has been performed, the tubes should be placed in the box and sent to the laboratory for analysis.

Stepwise description of the test procedure using breath bags

To perform the test, 1 double breath bag or 2 single breath bags and 1 mouth piece are used.

1. The patient should begin the procedure by exhaling through the mouth piece for the baseline (00-MINUTE) breath bag.
2. Remove the stopper cap from the breath bag hose and connect a mouth piece to the hose.
3. Take a deep breath and exhale into the mouth piece which is connected to the breath bag.
4. Remove the mouthpiece from the breath bag and close the breath bag with the stopper cap.
5. Swallow the tablet with a glass of water. Wait for 10 minutes in an upright position (standing or sitting position)
6. Exhale into the unused side of the double breath bag or to another single breath bag for the 10-MINUTES sample in the same way as described above.

Label the breath bags in order to identify the different samples (e.g."00-MINUTE" and "10-MINUTE").

Analysis of breath samples
One must ensure that an approved and certified laboratory performs the analysis. Laboratories and analysis equipment used should comply with EU directive: Council Directive 93/42/EEC/98/79/EC. This directive implies that the analysis equipment should be CE marked and approved for analysis of breath tests.
Explanation of analysis results
D d-value;
The difference in parts per thousand (‰) between the 00-MINUTE value and the 10 MINUTE value.
H. pylori status:
≤1.5 ‰ Δ δ-value = Negative *H. pylori* status.
>1.5 ‰ Δ δ-value = Positive *H. pylori* status.

Any unused product or waste material should be disposed of in accordance with local requirements.

7 MARKETING AUTHORISATION HOLDER

Laboratoires Mayoly Spindler
6 avenue de l'europe BP 51
78401 CHATOU Cedex
France

8 MARKETING AUTHORISATION NUMBER

PA1993/004/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of First Authorisation: 11 October 2002Date of Last Renewal: 22 October 2009

10 DATE OF REVISION OF THE TEXT

March 2021