Supplementary materials

Suppl. Table 1. List of primers used for PCR assay in this study

Target genes		Orientation	Primers sequences
16S rRNA		Forward	5'CTG GAG AGA CTA AGC CCT CC-3'
		Reverse	5'ATT ACT GAC GCT GAT TGT GC-3'
cagA		Forward	5'AAT ACA CCA ACG CCT CCA-3'
		Reverse	5'TTG TTG CCG CTT TTG CTC TC-3'
vacA	*vacA (s)*	Forward	5'ATG GAA ATA CAA CAA ACA CAC-3'
		Reverse	5'CTG CTT GAA TGC GCC AAA C-3'
	vacA (m)	Forward	5'CAA TCT GTC CAA TCA AGC GAG-3'
		Reverse	5'GCG TCT AAA TAA TTC CAA GG-3'

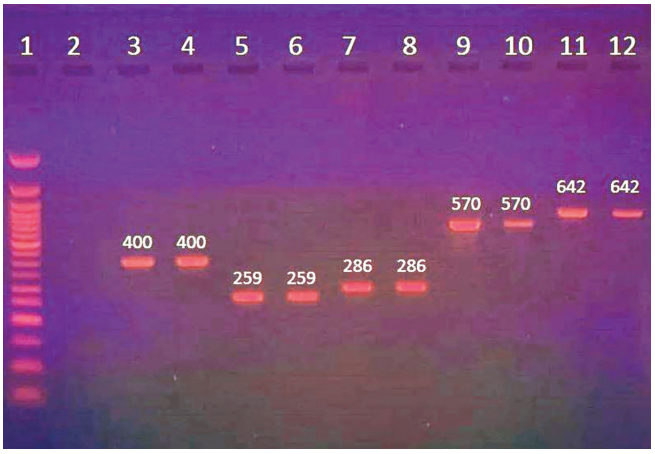
Suppl. Table 2. List of different plants which their essential oils have been tested for anti-*H. pylori* activity

English name	Latin name	Family name	Used part
Clove	*Syzygium aromaticum* L.	Myrtaceae	Flower buds
Thyme	*Thymus vulgaris* L.	Lamiaceae	Leaves
Rosemary	*Rosmarinus officinalis* L.	Lamiaceae	Leaves
Chamomile	*Matricaria recutita* L.	Asteraceae	Flowers
Cinnamon	*Cinnamomum zeylanicum* L.	Lauraceae	Bark

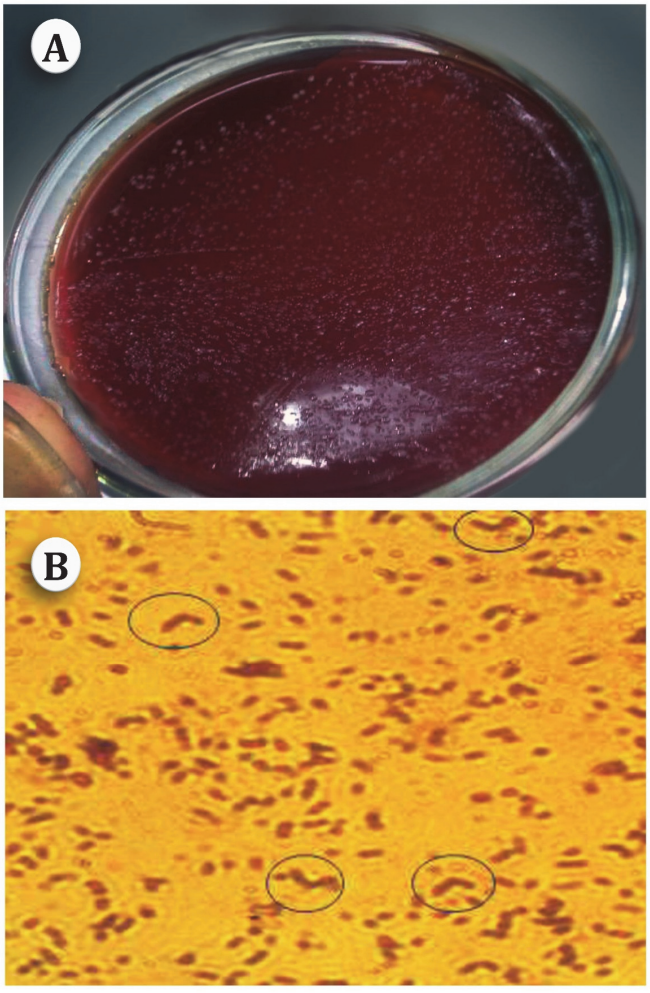
Suppl. Table 3. Antibiotic resistance percentage of the isolated *H. pylori* clinical isolates

Antibiotics	Symbol	Conc. (µg /disc)	Resistant isolates	
			No.	%
Amoxicillin	AMOX	25	22	78.6
Amoxicillin/Clavulanic acid	AMC	30	12	42.9
Erythromycin	ERY	15	16	57.2
Levofloxacin	LEV	5	8	28.6
Metronidazole	MTZ	5	28	100
Tetracycline	TE	30	11	39.3
Clarithromycin	CLR	15	22	78.6
Ciprofloxacin	CIP	5	12	42.9

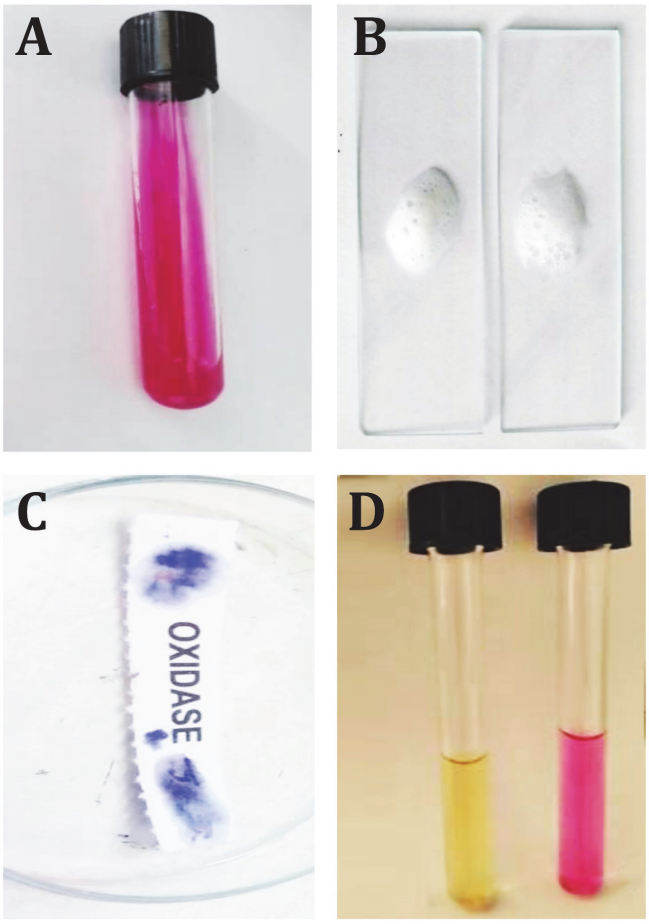
Suppl. Fig. 1. Gel electrophoresis for the 16S rRNA gene. Lane 1, DNA ladder (50 bp); lane 2, negative control; Lanes 3–8, 110 bp16S rRNA gene.



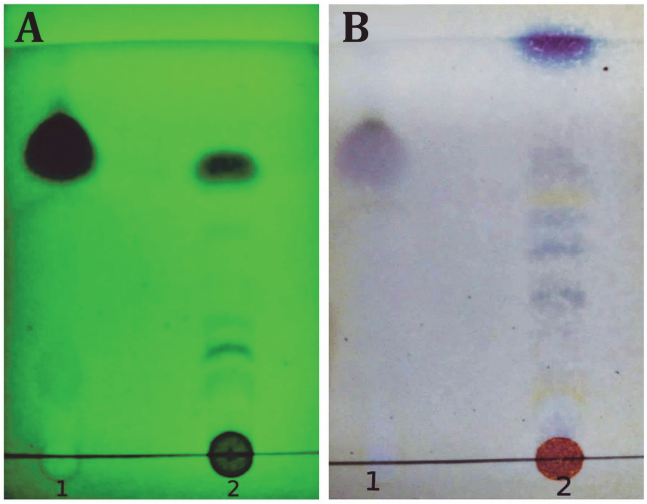
Suppl. Fig. 2. Gel electrophoresis for *cagA* and different *vacA* alleles. Lane 1, DNA ladder (50 bp); lane 2, negative control; lanes 3&4, *cagA* gene; lanes 5&6, *vacA s1* allele; lanes 7&8; *vacA s2* allele; lanes 9&10, *vacA m1* allele; lanes 11&12, *vacA m2* allele.



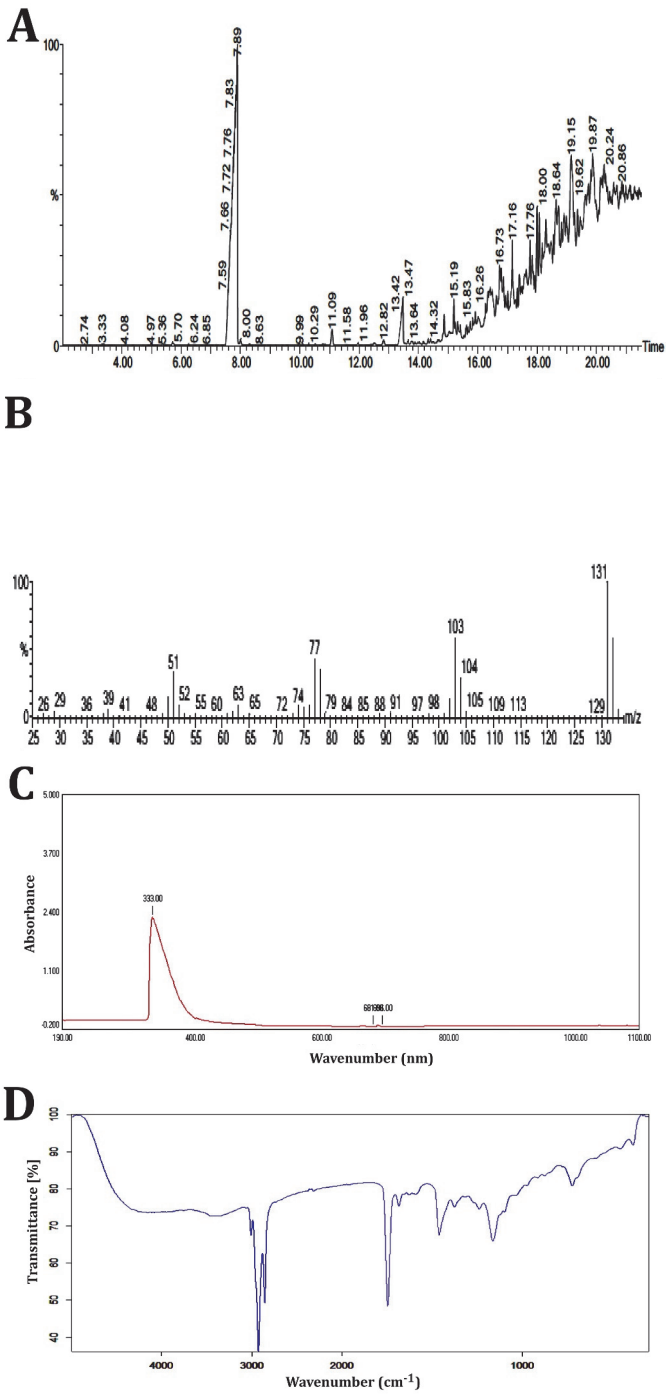
Suppl. Fig. 3. Morphological characterization of *H. pylor*i. (**A**) Culture of *H. pylori* on selective Colombia blood agar that shown transparent small colonies after incubation at 37 °C under microaerophilic conditions. (**B**) Gram-stained film from the characteristic colonies of *H. pylori* under a light microscope.



Suppl. Fig. 4. Biochemical tests of *H. pylori*. (**A**) Positive urease. (**B**) Positive catalase. (**C**) Positive oxidase. (**D**) Rapid urease test in Christensen's urea broth medium of an obtained gastric biopsy specimen.



Suppl. Fig. 6. TLC photograph of *C. zeylanicum* essential oil. (**A**) Silica gel plate under UV light. (**B**) Silica gel plate under visible light after spraying with vanillin sulfuric acid reagent; Cinnamaldehyde standard (1), Tested *C. zeylanicum* essential oil (2).



Suppl. Fig. 5. Characterization of *C. zeylanicum* essential oil using GC-MS (**A**), mass spectrum chromatogram of cinnamaldehyde (**B**), UV spectrum (**C**), and FT-IR (**D**).