

SUPPLEMENTARY MATERIAL

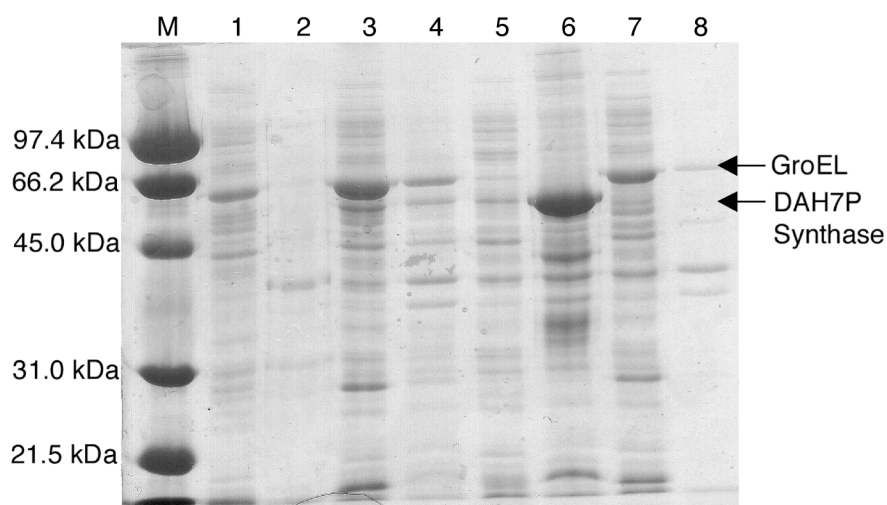


Figure S1 SDS-PAGE analysis of supernatants and pellets after cell lysis.

Whole cell pellets were resuspended in buffer and lysed by sonication on ice. The crude lysate was fractionated by centrifugation.

BL21(DE3)/pGroESL/pET-*Hpy*DAH7PS, Preinduction: Lane 1 - supernatant; Lane 2 - pellet.

BL21(DE3)/pGroESL/pET-*Hpy*DAH7PS, Induced cells Lane 3 - supernatant; Lane 4 - pellet.

BL21(DE3)/pET-*Hpy*DAH7PS, Induced cells: Lane 5 - supernatant; Lane 6 - pellet.

BL21(DE3)/ pGroESL, Induced cells: Lane 7 - supernatant; Lane 8 - pellet.

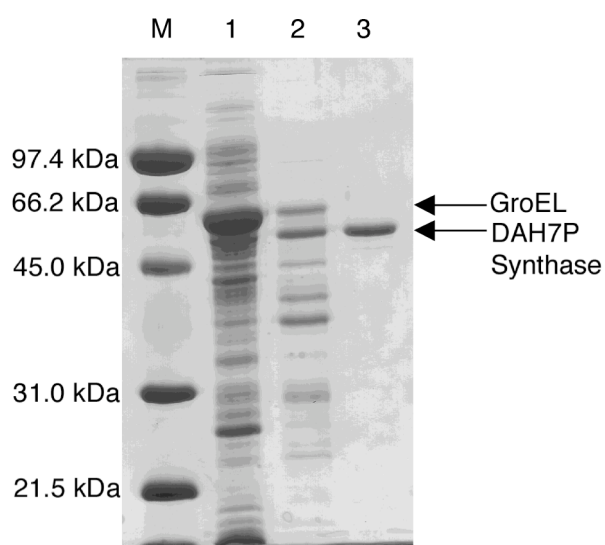


Figure S2 SDS-PAGE analysis of purification of *H. pylori* DAH7P synthase

Cells pelleted from a 333 mL culture of IPTG-induced *E. coli* BL21(DE3)/pGroESL/pET-*Hpy*DAH7PS were resuspended and lysed using a French Press and the cell lysate clarified by centrifugation to yield a supernatant fraction (lane 1). Lane 2: Source 15Q[®] fractions, pooled and concentrated. Lane 3: Mono S[®] fractions, pooled and concentrated.

Purification Step	Total protein (mg)	Total enzyme activity (Units)	Specific activity (Units mg ⁻¹)	% Yield	Relative purity
1. Crude lysate	333	69.0	0.21	100	1.0
2. Source 15Q [®]	12	11.5	0.96	17	4.5
3. Mono S [®]	2	7.4	3.70	11	17.6

Table S1 Two-step purification procedure of *H. pylori* DAH7P synthase

Sequences included in ClustalX alignment (Figure 4): *Arabidopsis thaliana* (GI:15236093, GI:15234217, GI:15219878), *A. mediterranea* (GI:7839575, GI:2792322), *A. methanolica* (GI:37181480) *Actinosynnema pretiosum* subsp. *auranticum* (GI: 3046984), *A. tumefaciens* (GI: 17740040), *A. nidulans* (GI:40745637), *Bartonella henselae* (GI:49475432), *Bartonella quintana* (GI: 49474274), *Burkholderia cepacia* (GI:46314827), *Bradyrhizobium japonicum* (GI:27378889), *Brevibacterium linens* (GI:NA), *Brucella melitensis* (GI:17982929), *Brucella suis* (GI:23501893), *Caulobacter crescentus* (GI:16126539), *C. jejuni* NCTC11168 (GI:15792065), *C. jejuni* RM1221 (GI:57237018), *Clavibacter michiganensis* (GI:NA), *C. diphtheriae* (GI:38234191), *Corynebacterium efficiens* (GI:25028629), *Corynebacterium glutamicum* (GI:41326357), *Cryptococcus neoformans* (GI:57225891), *C. merolae* (CMQ120C), *Desulfotalea psychrophila* (GI:51244606), *Desulfuromonas acetoxidans* (GI:NA), *Gibberella zeae* (GI:46109208), *Gluconobacter oxydans* (GI:58040200), *Helicobacter hepaticus* (GI:32263108), *Helicobacter mustelae* (GI:NA), *Helicobacter pylori* 26695 (GI:15644764), *Hyphomonas neptunium* (GI:NA), *Idiomarina loihiensis* (GI:56460427), *Kineococcus radiotolerans* (GI:46365623), *Legionella pneumophila* (GI:52842244), *Leifsonia xyli* subsp. *xyli* str. CTCB07 (GI:50955164), *Magnaporthe grisea* (GI:38102901), *Magnetospirillum magnetotacticum* (GI:23015224), *Mesorhizobium loti* (GI:13470978), *Magnetococcus* sp. MC-1 (GI:48833853), *Mycobacterium avium* (GI:NA), *Mycobacterium avium* subsp. *paratuberculosis* (GI:41408014), *Mycobacterium leprae* (GI:15827417), *M. tuberculosis* H37Rv (GI:15609315), *M. bovis* (GI:31618948), *Mycobacterium microti* (GI:NA), *Mycobacterium marinum* (GI:NA), *Myxococcus xanthus* (GI:NA), *N. crassa* (GI:28925693), *N. aromaticivorans* (GI: 48851120), *Nocardia farcinica* (GI:54023700), *Oryza sativa* (cDNA is GI:29157098, cDNA is GI:29155735), *Petroselinum crispum* (GI:2352925),

Propionibacterium acnes (GI:50842214), *Proteus mirabilis* (NCBI patents database GI:40080529), *P. aeruginosa* (GI:15598039, GI: 15599407), *P. putida* (GI:26988596), *Pseudomonas fluorescens* (GI:2492973, GI:48728741), *Pseudomonas syringae* (GI:46187573, GI:28868978), *Rhodobacter sphaeroides* (GI:46192181), *Rhodopseudomonas palustris* (GI:39648904), *Rhodospirillum rubrum* (GI:48763267), *Rhizobium leguminosarum* (GI:NA), *Silicibacter pomeroyi* (GI:56678552), *Silicibacter* sp. TM1040 (GI:52012189), *Sinorhizobium meliloti* 1021 (GI: 15965606), *Solanum tuberosum* (GI: 584777), *Stenotrophomonas maltophilia* (GI:NA), *S. aurantiaca* (GI:13924499, GI:11127900), *S. avermitilis* (GI:29609748), *S. coelicolor* (GI:4490619, GI:21220593), *S. collinus* (GI:4884833, GI:4884848), *Streptomyces* sp. (GI:2687633), *Streptomyces hygrosopicus* (GI:2624953), *Streptomyces venezuelae* (GI:47846869) *Streptomyces* sp. HK803 (GI:35186988), *T. gondii* (GI:33356632), *Tropheryma whipplei* (GI:28493182, GI:28572704), *Ustilago maydis* (GI:46097439), *Wolinella succinogenes* (GI:34557796), *X. campestris* (GI:13172310) *X. campestris* pv *campestris* str. ATCC 33913 (GI:21230391), *Xanthomonas axonopodis* (GI:21107137), *Xanthomonas oryzae* pv. *oryzae* (GI:58425194), *Yarrowia lipolytica* (GI:50547503), *Zymomonas mobilis* subsp. *mobilis* ZM4 (GI:56542657).