Extraction of anti-*H. pylori* peptides from bovine milk caseins via simple *in vitro* methods

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Short title: **Anti-*H. pylori* effects of bovine milk caseins**

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Summary

The work described in this Research Communication shows the anti-*Helicobacter pylori* activity of peptides isolated from bovine casein. This study used simple *in vitro* methods to extract anti-*H. pylori* peptides from caseins by the gastric protease, pepsin under environments with similar pH values to those found in the human stomach. The molecular weights and sequences of the peptides were identified by MALDI-TOF mass spectrometry and MS/MS Ion Search, respectively. Antibacterial activity tests were performed to calculate the minimum inhibitory concentration (MIC_{90}) of the extracts. The results revealed that the major products of bovine milk casein digestion by pepsin are casecidin 17 and β-casein 207–224. The extracts produced promising anti-*H. pylori* effects with the lowest MIC_{90} found at pH values of 1.5 and 2.0. This study identified the anti-*H. pylori* effects of caseins, which suggest drinking bovine milk may help to prevent *H. pylori* infection.