Gel containing mangosteen peel extract against *Helicobacter pylori*

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*Helicobacter pylori* is a micro-aerophilic, Gram-negative bacterium living in the human gastric mucosa that has a strong association with chronic active gastritis and duodenal ulcer (DU). The objective of this study was to test antimicrobial activity of mangosteen pericarp extract against *H. pylori* and to develop mucoadhesive gel as a drug reservoir for a mangosteen crude extract. Broth microdilution method was used to determine antibacterial activity of ethyl acetate, methanol, hexane and aqueous extracts. Oral gels were combination between two polymers (sodium carboxymethylcellulose (SCMC), hydroxypropyl-methylcellulose (HPMC) or sodium alginate) at different ratio. All formulations were immersed in simulated gastric fluid, phosphate buffer pH 6.8 and deionized water in order to test their stability. Results from 96-well plate revealed that ethyl acetate, methanol, hexane and aqueous extracts showed minimum inhibitory concentration (MIC) at 0.3125 mg/ml whereas hexane extract has MIC higher than 10 mg/ml. MICs of metronidazole and ampicillin were 0.156 mg/ml and 31.25 mg/ml, respectively. MICs of quercetin and rhein in rhubarb from *R. officinale* C. Linn., *Cissus quadrangularis* C. quadrangularis Linn. (Vitaceae), *Clerodendrum serratum* C.B.Clarke (Lamiaceae) and *Baillon. (Polygonaceae). The previous review literatures on *Helicobacter pylori* are available. The 5th Annual Northeast Pharmacy Research Conference of 2013 16 – 17 กุมภาพันธ์ 2556

**Keywords**: mangosteen extract; *Helicobacter pylori*; gel

Alcoholic-Alkaline Treated Rice Starch as a Disintegrant in Direct Compression Tablet

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The aim of study was to compare effect of amount of alcoholic alkaline treated rice starch (TRS) used as a disintegrant on properties of tablet prepared by direct compression method. TRS was used at various concentration 2.5, 5, 7.5, 10 % compare to 5% corn starch, 5% Explotab®, 5% native rice starch by using two types of filler (Super-Tab® and Emcompress®). Aerosil® and magnesium stearate was used as glidant and lubricant, respectively. Propranolol HCL was used as a model drug. Tablet properties including hardness, friability, disintegration time and dissolution were evaluated. Swelling and viscosity property of TRS were compared to a corn starch, Explotab® and native rice starch. The results showed that tablet properties depended on amount of TRS and type of filler. Increasing amount of TRS in tablet containing Emcompress®, the disintegration time was decreased and dissolution of drug was increased. For Super-Tab®, the disintegration time of tablet containing 2.5% TRS was similar to 5% corn starch and 5% native rice starch. And initial dissolution profile of drug from tablet containing 2.5 % TRS was higher than the others. Increasing amount of TRS in tablet using Emcompress® and Super-Tab® as a filler, the hardness was increased and friability was decreased. Using Emcompress® as a filler, the hardness of tablets containing TRS was significantly higher than native rice starch, corn starch and Explotab® (p < 0.05). Tablet properties related to swelling property and viscosity of disintegrant. It can be concluded that TRS can be used as disintegrant in tablet formulation.

**Keywords**: Treated rice starch, Rice starch, Disintegrant