Study Synopsis

Title	Bioequivalence Study of Azithromcycin 250 mg Capsules
Sponsor	The Government Pharmaceutical Organization
Clinical laboratory	Clinical study, Department of Pharmacology, Faculty of Medicine, Chulalongkorn University
Analytical laboratory	Pharmaceutical Technology Service Center Faculty of Pharmaceutical Sciences, Chulalongkorn University
EC approval	The Institutional Review Board, Faculty of Medicine, Chulalongkorn University
Principal investigator	Assoc.Prof.Sumana Chompootaweep, MD., MPH. Department of Pharmacology, Faculty of Medicine, Chulalongkorn University
Analytical investigator	Uthai Suvanakoot, Ph.D. Pharmaceutical Technology Service Center Faculty of Pharmaceutical Sciences, Chulalongkorn University
Pharmacokinetic and/or statistical investigator	Mr.Wasan Punyasang Clinical Epidemiology, Faculty of Medicine, Chulalongkorn University
Objectives	To compare the rate and extent of absorption of generic product of Azithromycin 250 mg capsules (Azycin®, The Government Pharmaceutical Organization) with the innovator product (Zithromax®, Pfizer).
Study design	A randomized, two treatment, two-period, two sequence, crossover design with four weeks wash out period in 32 healthy Thai male volunteers
Test product	Azithromycin 250 mg capsule (Azycin®), Lot no. S510169 Mfd. 03/07/08, Exp. 03/07/10 Manufactured by The Government Pharmaceutical Organization
Reference product	Zithromax® 250 mg capsule, Lot no. 814640141 Mfd. 04/08, Exp. 04/11 Manufactured by Pfizer Inc.(USA)

Study subjects	32 healthy Thai male volunteers with aging between 18-45 years
Demographic data (n = 32)	Age: 22.7 ± 6.1 year Height: 171.8 ± 5.7 cm Weight: 64.3 ± 7.3 kg BMI: 21.7 ± 1.7 kg/m^2
Admission and confinement	Prior to all dosing events, volunteers were fasted overnight at least 8 hours prior to study drug administration. On study day, a standardized lunch was provided 4 hours post-dose.
Drug administration	Two 250 mg capsules of Azithromycin were orally administered to all volunteers with water (240 mL) in the fasted state during 2 separate periods.
Study period	Period I: 20-28 December 2008 Period II: 17-25 January 2009
Washout period	Four weeks from the first drug administration
Safety assessment	All adverse events, physical examination, laboratory tests and vital signs were recorded and evaluated.
Blood sampling schedule	In each period, a total of 20 blood samples (7 mL each) were collected up to 192 hours post-dose. The total volume of blood draw was 280 mL for each subject.
Clinical sample storage	The resulting plasma was stored at -20ºC until anaylsis.
Bioanalytical methodology	Azithromycin plasma concentrations were assayed using a validated LC-MS method.
Pharmacokinetic Parameters	Primary pharmacokinetic parameters (C_{max}, AUC_{0-t}, $AUC_{0-\infty}$) and secondary pharmacokinetic parameters (T_{max}, $t_{1/2}$) were determined from the plasma concentration data of analytes.
Confidence Intervals	90% CI for geometric mean of test/reference ratio (ln-transformed data) C_{max}: 85.75 – 108.06% AUC_{0-t}: 90.76 - 107.14% $AUC_{0-\infty}$: 85.47 – 101.13%

Conclusions	Since 90% confidence intervals for the parameters C_{max}, AUC_{0-t} and $AUC_{0-\infty}$ were within the bioequivalence range of 80-125%, it can be concluded that the Azithromycin 250 mg capsule (Azycin®, Test formulation) is bioequivalent to Zithromax® 250 mg capsule (Reference formulation) under fasting condition.