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## **TELMISARTAN IS AS EFFECTIVE AS RAMIPRIL AND HAS FEWER SIDE EFFECTS**

**Chicago, Ill** – Results of the ONTARGET study, a study designed to measure the effect of doses of ramipril, telmisartan or a combination of the two on patients over the age of 55 years with coronary heart disease or diabetes, determined that telmisartan is as effective as ramipril but has fewer side effects. The study is being presented today at the American College of Cardiology's 57<sup>th</sup> Annual Scientific Session.

The ONTARGET study was developed to further explore questions that emerged after previous studies. The Heart Outcomes Prevention Evaluation Trial (HOPE) demonstrated that angiotensin converting enzyme (ACE) inhibitors such as ramipril reduce cardiovascular death, myocardial infarction, stroke, and heart failure in high-risk individuals without left ventricular dysfunction. A significant proportion of patients, however, are unable to tolerate an ACE-inhibitor due to cough, hypotension or angioneurotic edema. If related therapies such as an angiotensin receptor blocker were proven to be at least as effective and better tolerated, this would offer clinicians and patients an important alternative treatment. It is also possible that the combination of an angiotensin receptor blocker plus an ACE-inhibitor might be more effective than either therapy alone.

Investigators from 733 centers from 40 countries collaborated in conducting the ONTARGET study, which enrolled 25,620 patients over the age of 55 years with coronary heart disease or diabetes, plus additional risk factors, but without evidence of heart failure. After a single blind run-in phase, patients were randomized to receive ramipril 10-mg a day, telmisartan 80-mg a day or the combination of the two. The mean duration of follow-up of the study was 55 months.

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Telmisartan lowered blood pressure to a slightly greater extent compared to ramipril (1 mm Hg lower systolic), and the combination lowered it still further (2.4 mm Hg systolic lower). Telmisartan alone, or ramipril alone, was found to be equally effective in reducing the primary outcome of cardiovascular death, stroke, heart attack or hospitalization for heart failure, as well as each component of this composite outcome. The confidence intervals of these estimates were tight and clearly met the pre-specified statistical non-inferiority boundary. Telmisartan was better tolerated than ramipril, with the chief difference being lower rates of cough, as well as lower rates of angioneurotic edema. With telmisartan, there was a small excess of minor symptoms related to hypotension such as dizziness.

Despite the further lowering of blood pressure, combination therapy surprisingly did not offer any additional benefit but was associated with a higher rate of hypotension-related side effects, including syncope. There was an increase in discontinuation for increased potassium levels too.

“This study is of clinical importance because it demonstrates that telmisartan is an effective and safe alternative to ramipril. This means both patients and physicians have choices and can use telmisartan where appropriate with a high degree of confidence,” said Salim Yusuf, M.D., Professor of Medicine, Director of the Population Health Research Institute, McMaster University, Hamilton, Ontario, Canada.

“The lack of additional benefit with combination therapy, but with some concerns over safety, emphasizes that combination therapy with an ACE-inhibitor and an angiotensin receptor blocker at full doses is not only of little additional benefit, but can be associated with significant adverse effects. Therefore, in general, such therapy should not be used in the types of patients enrolled in the ONTARGET study,” added Peter Sleight, M.D., Emeritus Professor of Cardiology, Oxford University, United Kingdom.

The ONTARGET study will be reported online in the *New England Journal of Medicine* at the same time as it is presented at the ACC conference and will appear in print in the April 10 issue of the journal. While the study was funded by Boehringer-Ingelheim, it was conducted, analyzed and reported by the Population Health Research Institute, McMaster University and Hamilton Health Sciences, Hamilton, Canada, as well as a Steering Committee involving leaders from 40 countries.

*Dr. Yusuf will present the study “Telmisartan is as effective as Ramipril, but has fewer side effects” on Monday, March 31, 2008 at 10:00 a.m. in North Hall B1.*

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The American College of Cardiology ([www.acc.org](http://www.acc.org)) represents the majority of board certified cardiovascular physicians in the United States. Its mission is to advocate quality cardiovascular care through education, research, promotion, development and application of standards and guidelines- and to influence health care policy. ACC.08 is the largest cardiovascular meeting, bringing together cardiologists and cardiovascular specialists to

share the newest discoveries in treatment and prevention, while helping the ACC achieve its mission to address and improve issues in cardiovascular medicine.