

## Heart Failure: Unraveling the Role of Statins

(February 14, 2007) - Researchers at TGRI recently revealed a mechanism of action of the popular cardiac drug family statins.

Statins are commonly prescribed to treat overproduction of cholesterol in cardiovascular patients. Findings from a UHN study of heart cells, led by **McEwen Investigator** Dr. Rudiger von Harsdorf, show that lovastatin--a type of statin--uses the molecule FoxO3a as a signal to activate the protein p21. The p21 protein is responsible for preventing cell growth and division, preventing overgrowth of heart tissue leading to heart failure.

"Heart failure is characterized by pathological overgrowth of the heart muscle. Statins have been shown to prevent this however, up to now, the cellular pathway for this event was unclear," says Dr. von Harsdorf. "We now identified the cell cycle suppressor p21 as the target molecule for the growth-inhibitory effect of statins in the heart. This may lead to novel therapies, aiming at the stability of p21 in heart failure patients."

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