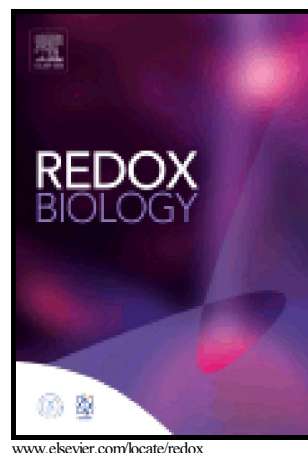


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## Lipidomics reveals accumulation of the oxidized cholesterol in erythrocytes of heart failure patients

Hsiang-Yu Tang<sup>1</sup>, Chao-Hung Wang<sup>2,3</sup>, Hung-Yao Ho<sup>4,5</sup>, Pei-Ting Wu<sup>6</sup>, Chun-Ling Hung<sup>6</sup>, Cheng-Yu Huang<sup>1</sup>, Pei-Ru Wu<sup>7</sup>, Yung-Hsin Yeh<sup>8</sup>, Mei-Ling Cheng<sup>1,5,7,\*</sup>

<sup>1</sup>Metabolomics Core Laboratory, Healthy Aging Research Center, Chang Gung University, Tao-yuan, Taiwan; <sup>2</sup>Heart Failure Research Center, Division of Cardiology, Department of Internal Medicine, Chang Gung Memorial Hospital, Keelung, Taiwan; <sup>3</sup>College of Medicine, Chang Gung University, Taoyuan, Taiwan; <sup>4</sup>Department of Medical Biotechnology and Laboratory Science, College of Medicine, Chang Gung University, Taoyuan, Taiwan; <sup>5</sup>Clinical Phenome Center, Chang Gung Memorial Hospital, Taoyuan, Taiwan; <sup>6</sup>Graduate Institute of Biomedical Sciences, College of Medicine, Chang Gung University, Taoyuan, Taiwan; <sup>7</sup>Department of Biomedical Sciences, College of Medicine, Chang Gung University, Taoyuan, Taiwan; <sup>8</sup>Cardiovascular Division, Chang-Gung Memorial Hospital, Chang-Gung University College of Medicine, Chang-Gung University, Taiwan

### \*Corresponding author:

Mei-Ling Cheng, Ph.D.

Department of Biomedical Sciences, College of Medicine, Chang Gung University, No.259, Wenhua 1st Rd., Guishan Dist., Taoyuan City 33302, Taiwan (R.O.C.)

E-mail address: chengm@mail.cgu.edu.tw; Phone:886-3-2118244

### Abstract

Lipids play an important role in the pathogenesis of cardiovascular disease. Changes in lipids of erythrocytes are indicative of the outcome of pathophysiological processes. In the present study, we assessed whether the lipid profiles of erythrocytes from heart failure (HF) patients are informative of their disease risk. The lipidomes of erythrocytes from 10 control subjects and 29 patients at different HF stages were analyzed using liquid chromatography time-of-flight mass spectrometry. The lipid composition of erythrocytes obtained from HF patients was significantly different from that of normal controls. The levels of phosphatidylcholines (PCs), phosphatidylethanolamines (PEs), and sphingomyelins decreased in HF erythrocytes as compared with those of control subjects; however, the levels of lysoPCs, lysoPEs, and ceramides increased in HF erythrocytes. Notably, the oxidized cholesterol 7-ketocholesterol (7KCh) accumulated to higher level in HF erythrocytes than in

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