VERSION 2

SEP 30, 2019

OPEN ACCESS

DOI:
dx.doi.org/10.17504/protocols.io.7tdhni6

External link:
<https://www.diacomp.org/shared/document.aspx?id=43&docType=Protocol>

Protocol Citation: E. Dale Abel 2019. Measurement of Left Ventricular Hemodynamic Parameters in Intact Mice.
protocols.io
<https://dx.doi.org/10.17504/protocols.io.7tdhni6>

License: This is an open access protocol distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited

Protocol status: Working
We use this protocol and it's working

Created: Sep 30, 2019

Last Modified: Sep 30, 2019

Measurement of Left Ventricular Hemodynamic Parameters in Intact Mice V.2

E. Dale Abel¹

¹University of Iowa

Diabetic Complications Consortium

Tech. support email: rmcindoe@augusta.edu

Lili Liang

ABSTRACT

Summary:

This protocol describes the procedure used by the DiaComp for measuring left ventricular hemodynamic parameters in intact mice.

Diabetic Complication:

Cardiovascular

Keywords: Measurement of
Left Ventricular Hemodynamic
Parameters, cardiovascular

1 Measurement of *in vivo* cardiac contractile performance using a micro-manometer tipped catheter:

Indices of left ventricular contractile performance are determined in mice under isoflurane anesthesia by percutaneously introducing a 1.4 Fr. Millar catheter into the carotid artery and gently advancing this into the left ventricular cavity. Pressure waves are recorded captured and analyzed with pClamp 8.2 software. This technique provides the following indices of left ventricular function.

- (1) Left ventricular systolic pressure (LVSP) Units: mmHg
- (2) Left ventricular end diastolic pressure (LVEDP) Units: mmHg
- (3) Heart Rate Units: beats per minute
- (4) Positive dP/dt – First derivative of LV pressure. This index is a measure of the rate of pressure development in the left ventricle. Units: mmHg/msec.
- (5) Negative dP/dt – First derivative of LV pressure. This index is a measure of the rate of ventricular relaxation, or the rate of pressure decay in the LV Units: mmHg/msec.