

ONLINE SUPPLEMENT

SOLUBLE GUANYLATE CYCLASE IS REQUIRED FOR SYSTEMIC VASODILATION

BUT NOT POSITIVE INOTROPY INDUCED BY NITROXYL (HNO) in the MOUSE

Guangshuo Zhu¹, Dieter Groneberg², Gautam Sikka³, Daijiro Hori⁴, Mark J. Ranek¹,

Taishi Nakamura¹, Eiki Takimoto¹, Nazareno Paolucci¹,

Dan E. Berkowitz³, Andreas Friebe², David A. Kass¹

- 1) Department of Medicine, Division of Cardiology; Johns Hopkins School of Medicine, Baltimore MD (USA) 21205
- 2) Institute of Vegetative Physiology, Julius Maximillians-Universität Würzburg, Germany
- 3) Department of Anesthesia, Johns Hopkins Medical Institutions, Baltimore MD (USA)
- 4) Department of Surgery, Johns Hopkins Medical Institutions, Baltimore MD (USA)

Supplemental Tables : S1 and S2

Supplemental Table S1

Dose-dependent effect of CXL-1020 in the normal (C57Bl/6J) mouse heart.

Parameter	Baseline	----- CXL-1020(ug/kg/min) -----			p
		200	300	500	
Heart Rate (min ⁻¹)	578.9±27.4	576.0±27.1	583.3±24.5	598.5±21.2	0.524
LVP _{max} (mmHg)	99.3±3.0	94.7±2.4 ‡	93.5±2.7 ‡	88.4±3.3 ‡	1x10 ⁻⁹
LVP _{es} (mmHg)	93.6±3.7	88.1±3.1 †	85.7±3.5 ‡	78.6±4.7 ‡	6x10 ⁻⁸
SV (μl)	19.9±2.3	21.9±2.2 *	24.3±2.5 ‡	27.0±2.6 ‡	1x10 ⁻⁸
EF (%)	54±2	59±1	62±4 ‡	64±3 ‡	2x10 ⁻⁴
dP/dt _{max} /IP (sec ⁻¹)	163.0±11.0	168.4±9.7	182.7±10.2 †	215.1±13.8 †	2.3x10 ⁻⁵

Data are mean ± SEM, n=10 in each group. P value in table is for drug effect in repeated measures analysis of co-variance, *P< 0.05; † p<0.01; ‡p<0.001 versus baseline by paired Student's t-test with Bonferoni correction for multiple comparisons.

Supplemental Table S2

Effect of 500 mg/kg/min of CXL-1020 in sGC-knock out mice (GCKO) and littermate controls (WT).

Parameter CXL-1020	p	WT		p	GCKO		
		Baseline	CXL-1020 (500ug/kg/min)		Baseline		
(500ug/kg/min)							
Heart Rate	(min ⁻¹)	606±0.0	606±0.0	1.00	606±0.0	603.6±2.2	0.363
LVP _{max}	(mmHg)	103.8±6.2	88.3±4.3	0.00	126.2±7.7	133.4±6.4	0.147
LVP _{es}	(mmHg)	97.1±6.9	78.4±3.6	0.00	116.4±5.6	121.1±6.9	0.434
SV	(μl)	21.5±0.7	26.1±1.9	0.01	21.6±0.9	22.1±1.0	0.667
EF	(%)	55±1	63±2	0.00	58±3	60±2	0.118
dP/dt _{max} /IP	(sec ⁻¹)	204.7±11.7	218.5±11.3	0.00	219.5±11.8	240.9±4.02	0.050

Data are mean ± SEM, n=6 in each group. P values are for paired Student's t-test versus within each group.