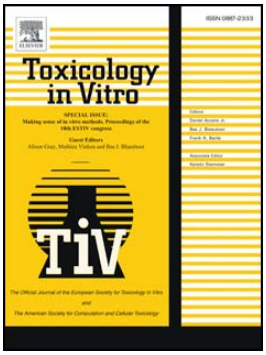

Inhibition of homocysteine-induced endoplasmic reticulum stress and endothelial cell damage by L-SERINE AND GLYCINE

WOO-CHEOL SIM, INHOI HAN, WONSEOK LEE, YOU-JIN CHOI, KANG-YO LEE, DONG GWANG KIM, SEUNG-HWAN JUNG, SEON-HEE OH, BYUNG-HOON LEE

PII: S0887-2333(16)30071-6
DOI: DOI: 10.1016/J.TIV.2016.04.004
REFERENCE: TIV 3762

TO APPEAR IN:

RECEIVED DATE: 26 DECEMBER 2015
REVISED DATE: 8 MARCH 2016
ACCEPTED DATE: 5 APRIL 2016

Please cite this article as: Sim, Woo-Cheol, Han, Inhoi, Lee, Wonseok, Choi, You-Jin, Lee, Kang-Yo, Kim, Dong Gwang, Jung, Seung-Hwan, Oh, Seon-Hee, Lee, Byung-Hoon, Inhibition of homocysteine-induced endoplasmic reticulum stress and endothelial cell damage by L-SERINE AND GLYCINE, (2016), DOI: 10.1016/J.TIV.2016.04.004

Inhibition of homocysteine-induced endoplasmic reticulum stress and endothelial cell damage by L-serine and glycine

[Running Title: L-Serine Effects on Homocysteine-induced ER Stress]

Woo-Cheol Sim[a], Inhoi Han[a], Wonseok Lee[a], You-Jin Choi[a], Kang-Yo Lee[a], Dong Gwang Kim[a], Seung-Hwan Jung[a], Seon-Hee Oh[b] and Byung-Hoon Lee[a, *]

[a] College of Pharmacy and Research Institute of Pharmaceutical Sciences, Seoul National University, Seoul 151-742, Republic of Korea
[b] The Division of Natural Medical Sciences, College of Health Science, Chosun University, Gwangju, 501-759, Republic of Korea

Woo-Cheol Sim : masercat@naver.com
Inhoi Han : hanih420@naver.com
Wonseok Lee : wonseokpharm@gmail.com
You-Jin Choi : choicom86@hanmail.net
Kang-Yo Lee : fuelforlife@naver.com
Dong Gwang Kim : ycfkdk89@naver.com
Seung-Hwan Jung : 1989sh@hanmail.net
Seon-Hee Oh : seonh@chosun.ac.kr

[*] To whom correspondence should be addressed
College of Pharmacy, Seoul National University,
Gwanak-ro 1, Gwanak-gu,
Seoul 151-742, Republic of Korea
lee@snu.ac.kr
Tel: +82-2-880-7843
Fax: +82-2-874-7843

Abbreviations

A, sodium/alanine symporter; ADMA, asymmetric dimethylarginine; ASC, amiloride-sensitive sodium channel; CBS, cystathionine β-synthase; CHOP, C/EBP homologous protein; cSHMT or mSHMT, cytosolic or mitochondrial serine hydroxymethyltransferase; eNOS, endothelial nitric oxide synthase; ER, endoplasmic reticulum; GAPDH, glyceraldehyde 3-phosphated dehydrogenase; GRP78, glucose-regulated protein 78 kDa; HAEC, human aortic endothelial cell; L, sodium-independent large branched-chain neutral amino acid transport; MS, methionine synthase; SD, standard deviation; siRNA, small interfering RNA; XAG, sodium-dependent aspartate and glutamate transporter; XBP1, x-box binding protein 1