Biochemistry & Physiology: Open Access

Review Article OMICS international

Keywords:

Introduction

Citation: Melaku L, Mossie A (2017) Molecular Characterization of Hydrogen Sulfde Role in Vascular System and Method of Endogenous Production Detections with Common Ion Channels Used to Produce Its Biological Effect. Biochem Physiol 6: 222. doi: 10.4172/2168-9652.1000222

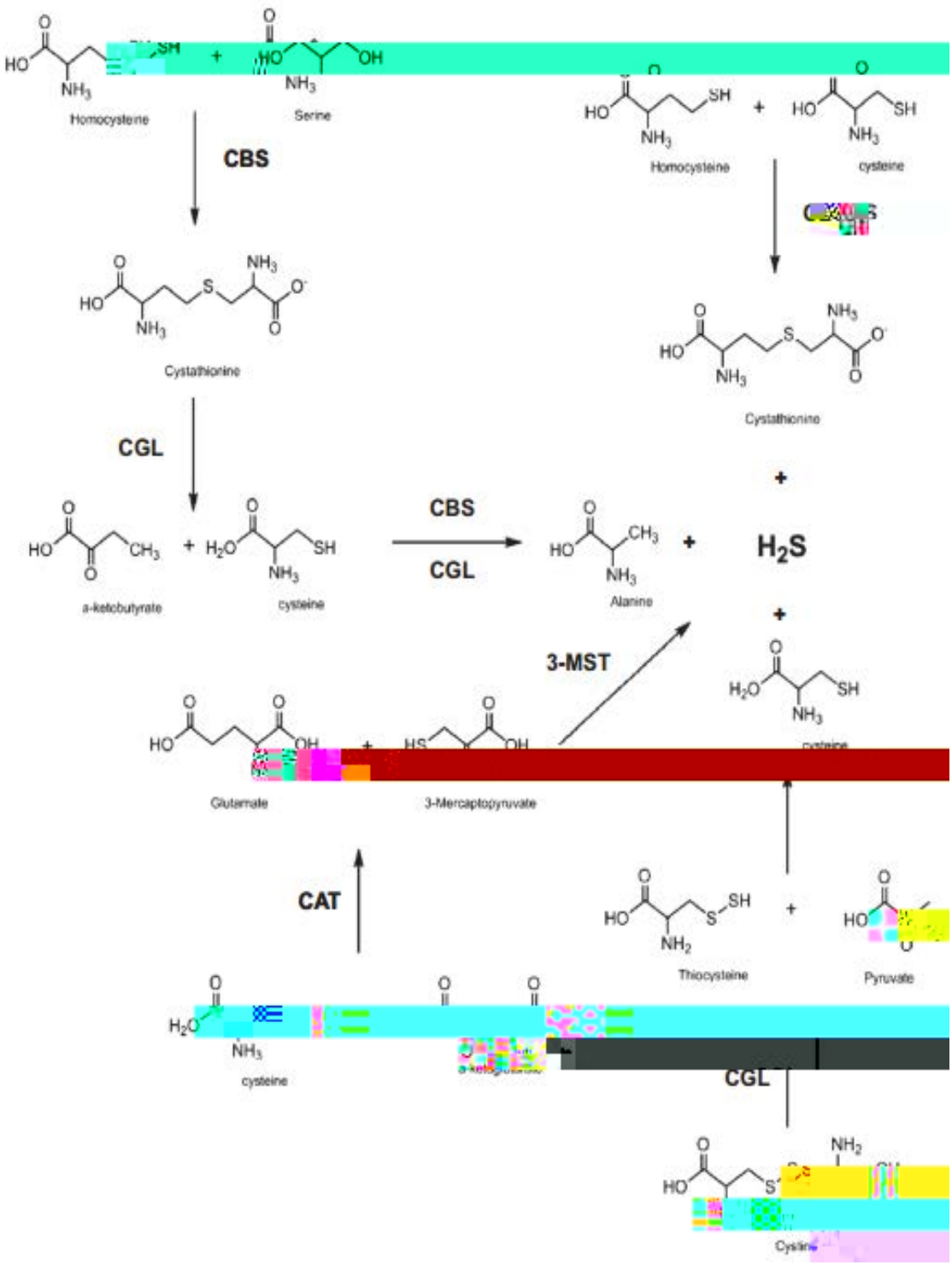


Figure 1: The enzymatic production of H_2S.
CBS catalyzes the frst step in H_2S production through the transsulfuration of homocysteine to cystathionine. CGL in an elimination reaction catalyzes the formation of

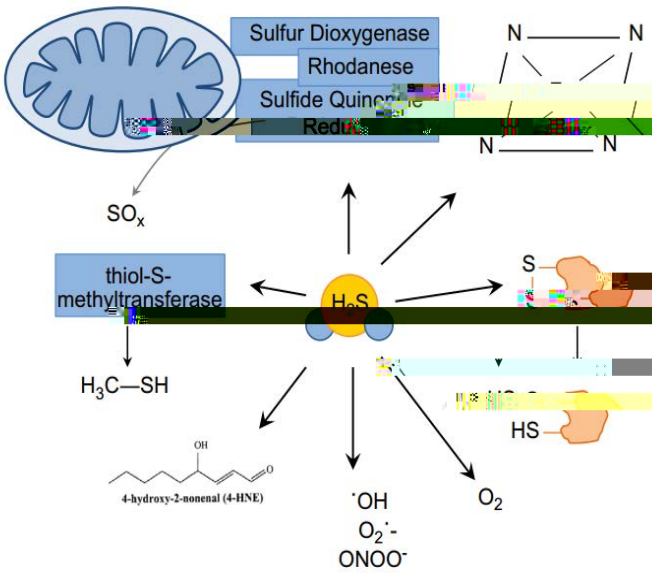
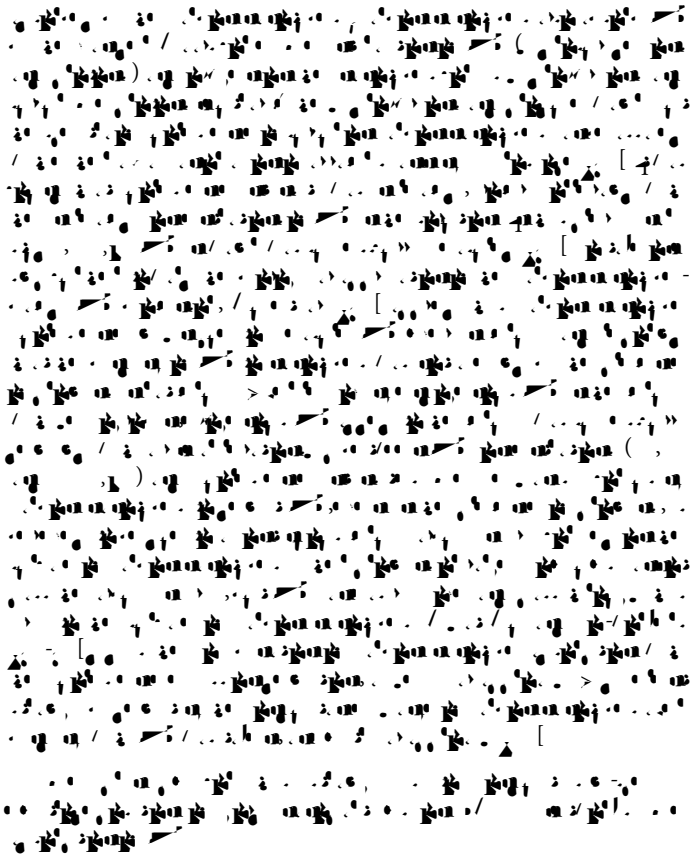
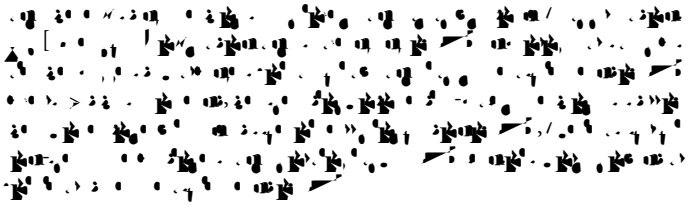


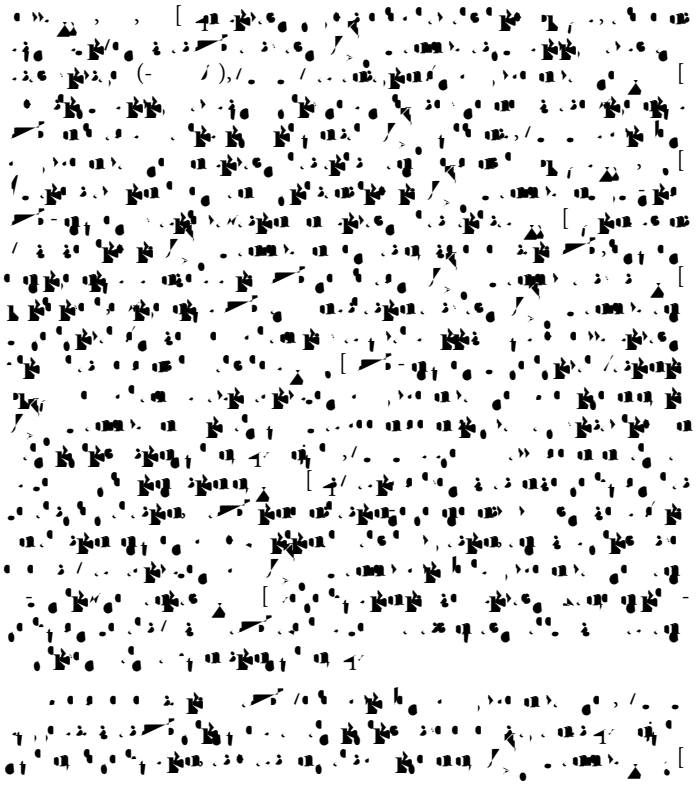
Figure 2: Proposed pathways of H_2S removal in mammalian cells.
The physiological steady-state concentration of H_2

Citation: Melaku L, Mossie A (2017) Molecular Characterization of Hydrogen Sulfde Role in Vascular System and Method of Endogenous Production Detections with Common Ion Channels Used to Produce Its Biological Effect. Biochem Physiol 6: 222. doi: 10.4172/2168-9652.1000222

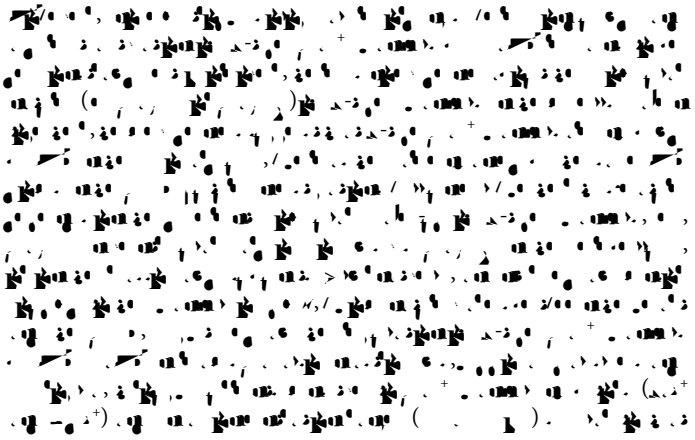


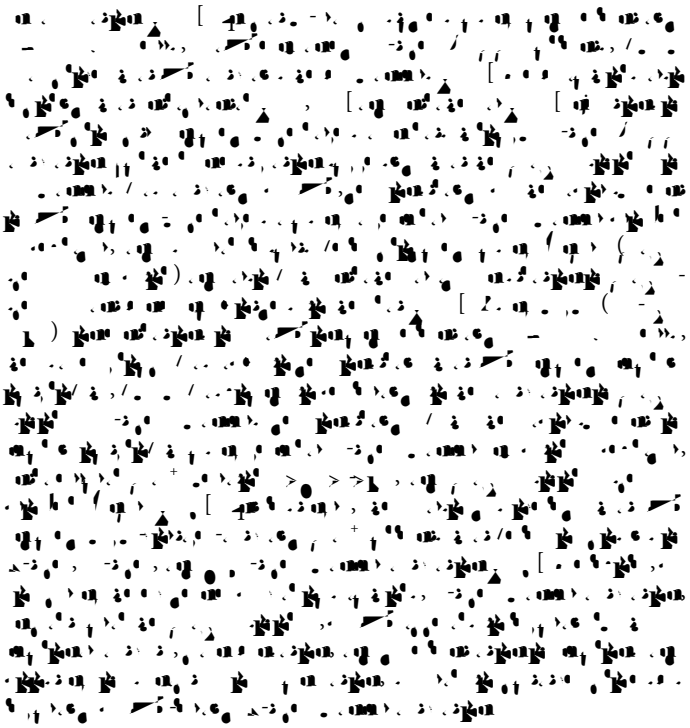
Citation: Melaku L, Mossie A (2017) Molecular Characterization of Hydrogen Sulfide Role in Vascular System and Method of Endogenous Production Detections with Common Ion Channels Used to Produce Its Biological Effect. Biochem Physiol 6: 222. doi: 10.4172/2168-9652.1000222



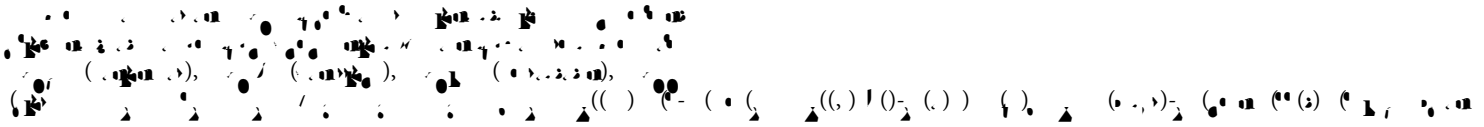


H_2S and chloride (cl^-) channels

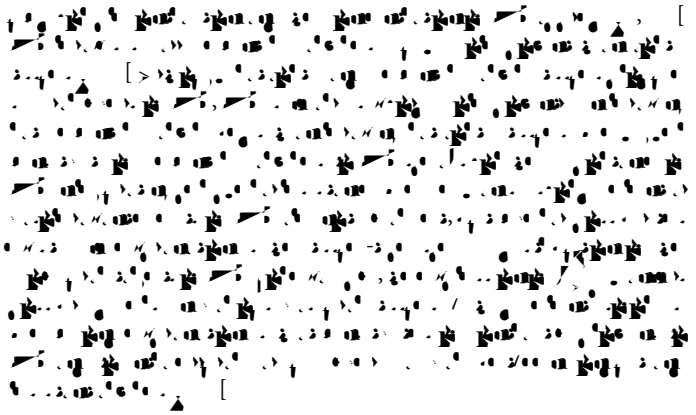


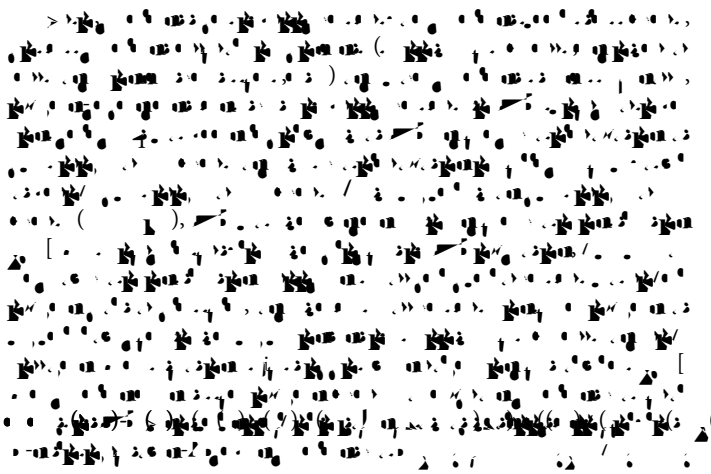


H_2S and transient receptor potential (trp) ion channels



Citation: Melaku L, Mossie A (2017) Molecular Characterization of Hydrogen Sulfde Role in Vascular System and Method of Endogenous Production Detections with Common Ion Channels Used to Produce Its Biological Effect. Biochem Physiol 6: 222. doi: 10.4172/2168-9652.1000222

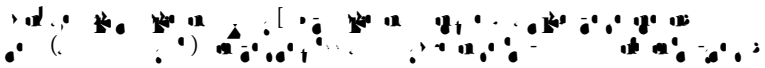




H_2S and vascular endothelial cell proliferation

in vitro

Citation: Melaku L, Mossie A (2017) Molecular Characterization of Hydrogen Sulfide Role in Vascular System and Method of Endogenous Production Detections with Common Ion Channels Used to Produce Its Biological Effect. Biochem Physiol 6: 222. doi: 10.4172/2168-9652.1000222



24.

hydrogen sulfde biosynthesis. Biochem Biophys Res Commun 333: 1146-1152.

71. Sparatore A, Perrino E, Tazzari V, Giustarini D, Rossi R, et al. (2009) Pharmacological profle of a novel H_2S-releasing aspirin. Free Radic Biol Med 46: 586-592.

72.

119. Andruski B, McCafferty DM, Ignacy T, Millen B, McDougall JJ (2008) Leukocyte

Citation: Melaku L, Mossie A (2017) Molecular Characterization of Hydrogen Sulfide Role in Vascular System and Method of Endogenous Production Detections with Common Ion Channels Used to Produce Its Biological Effect. Biochem Physiol 6: 222. doi: 10.4172/2168-9652.1000222

209. Suzuki K, Olah G, Modis K, Coletta C, Kulp G, et al.(2011) Hydrogen sulfde replacement therapy protects the vascular endothelium in hyperglycemia by preserving mitochondrial function. Proc Natl Acad Sci U S A 108: 13829–34.

210. Bauer C, Boyle J, Porter K, Peers C (2010) Modulation of Ca^{2+} signaling in human vascular endothelial cells by hydrogen sulfde. Atherosclerosis 209: 374-380.

211. Yang G, Sun X, Wang R (2004) Hydrogen sulfde-induced apoptosis of human aorta smooth muscle cells via the activation of mitogen activated protein kinases and caspase-3. FASEB J 18: 1782-1784.

212. Yang G, Pei Y, Teng H, Cao Q, Wang R (2011) Specifcity protein-1 as a critical regulator of human cystathionine gamma-lyase in smooth muscle cells. J Biol Chem 286: 26450-26460.

213. Yang G, Yang W, Wu L, Wang R (2007) H2S, endoplasma [illegible]