OMICS International
conferenceseries.com

Salman Azhar, J Steroids Hormon Sci 2015, 6:3
http://dx.doi.org/10.4172/2157-7536.S1.003

Global Summit on
Steroids

July 13-15, 2015 Baltimore, USA

Hormonal regulation of steroidogenic scavenger receptor class b type I, a high-density lipoprotein (HDL) receptor

Salman Azhar
Stanford University, USA

Scavenger receptor class B, type I (SR-BI), an HDL receptor, is most abundantly expressed in the liver (hepatic SR-BI) and the steroid cells of the adrenal gland, ovary and testis (steroidogenic SR-BI). It binds HDL (and other lipoproteins), and mediates cholesterol uptake by cells. This process involves selective transfer of HDL-CE without the parallel uptake of apolipoproteins (i.e., internalization of intact HDL particles). SR-BI is most abundantly expressed in the liver and steroidogenic tissues. In the liver, as a component of the Reverse Cholesterol Transport (RCT) system, it mediates selective delivery of HDL-cholesterol to the liver for biliary cholesterol secretion and bile acid synthesis. In steroidogenic tissues, SR-BI delivers the bulk of HDL-cholesterol needed for steroid hormone biosynthesis. Studies from our laboratory have shown that trophic hormones regulate expression and function of steroidogenic SR-BI at the transcriptional, post-transcriptional and post-translational levels. Among these, post-transcriptional and post-translational regulation of steroidogenic SR-BI is gaining momentum and currently, several molecules and events including several microRNAs, NHERF1 and NHERF2 and salt-inducible kinase (SIK-1) protein: protein interaction (SR-BI dimerization, and SR-BI: SIK-1 protein: protein interaction) have been implicated in these processes. Another critical regulation of steroidogenic SR-BI involves its preferential localization on microvillar membranes, a component of the intricate surface microvillar system, which specializes in trapping lipoproteins, and as a result enhances the selective delivery of HDL-cholesterol in steroid-producing cells. Based on these exciting findings, we conclude that steroidogenic SR-BI is subject to multiple regulatory mechanisms to ensure the delivery of an adequate amount of cholesterol to cells for maximum steroid production.

Biography

Salman Azhar obtained his PhD degree in 1973 from the Central Drug Research Institute (CDRI), Lucknow, India and Kanpur University, Kanpur, India. He did his Postdoctoral training (1973-76) as a Population Council Fellow, at the University of Michigan, Ann Arbor, MI. He joined the Geriatric Research, Education and Clinical Center (GRECC), VA Palo Alto Health Care System, Palo Alto, CA in 1980, and is currently an Associate Director for GRECC Research Programs. He is also a Consulting Professor of Gastroenterology and Hepatology, Department of Medicine at Stanford University. He has published more than 220 research articles in reputed journals and serves on the Editorial Board of several journals. Currently, he is the recipient of several research grants from the Department of Veterans Affairs, National Institutes of Health (NIH), and pharmaceutical companies.

Salman.Azhar@va.gov

Notes: