OMICS Group Conferences
Accelerating Scientific Discovery

2nd World Congress on
Cell Science & Stem Cell Research

November 12-14, 2012 Hilton San Antonio Airport, USA

Ferritin L is the sole serum ferritin constituent and a positive hepatic acute phase protein

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Ferritin L (FTL) and ferritin H (FTH) sub-units are responsible for intracellular iron storage. Serum ferritin levels are not only dependant on body iron stores. Aims of the present study are to demonstrate nature, source and major regulatory mediators of serum ferritin in an animal model of acute phase response. Animals (rats, wild type and IL6-KO mice) were administered turpentine-oil (TO) intramuscularly to induce a sterile abscess (acute phase model) and sacrificed at different time points. Isolated rat hepatocytes were stimulated with major acute phase cytokines to induce acute phase conditions. By means of Western blot analysis, only FTL was detectable in serum of control and TO-injected rats. A significantly increased hepatic expression of ferritin sub-units was observed at mRNA and protein level during acute phase response. There was a dramatic increase in the serum IL-6 levels in TO-injected animals. Similarly, increased amount of hepatic ferritin sub-units was observed in TO-injected wild type mice but not in IL6-KO-mice. An increase in protein expression of FTL and FTH was observed in rat hepatocytes after treatment with IL6, IL1-β and TNF-α, however, only FTL was increasingly released into supernatant. Our data demonstrate that under physiological as well as acute phase conditions, FTL is the only serum ferritin; FTH expression, in contrast, is exclusively intracellular in both conditions. In TO-mediated model of acute phase response, hepatic expression of FTL and FTH is mainly regulated by IL6. Furthermore, in-vitro studies demonstrated the up-regulating role of acute phase cytokines (not onlyIL6) in synthesis and secretion of FTL by rat hepatocytes

Biography

Naila Naz, have completed my PhD at the age of 25 years from George August University of Medicine Göttingen, Germany. I could finish my PhD in 2 years and 4 months time with two first author and 6 c0-author publications in reputed journals. I am member of different scientist forums (GASL, ESGAR,etc). Moreover, i am a potential reviewer for Laboratory investigation. Currently, i am working as a post-doctoral research scientist in the same University

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