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# Keynote Forum

## November 29, 2019

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### ***Diabetes 2019***

### ***Diabetes Congress 2019***



Joint Event on  
28<sup>th</sup> International Conference on  
**Diabetes and Endocrinology**  
&  
3<sup>rd</sup> International Conference on  
**Diabetes and Metabolism**

November 29-30, 2019 | Frankfurt, Germany



## Shuxin Han

Case Western Reserve University, USA

### KLF15 regulates endobiotic and xenobiotic metabolism

Hepatic metabolism and elimination of endobiotics (e.g., steroids, bile acids) and xenobiotics (e.g., drugs, toxins) is essential for health. While the enzymatic (termed phase I-II) and transport machinery (termed phase III) controlling endobiotic and xenobiotic metabolism (EXM) is known, our understanding of molecular nodal points that coordinate EXM function in physiology and disease remains incompletely understood. Here we show that the transcription factor Kruppel-like factor 15 (KLF15) regulates all three phases of the EXM system by direct and indirect pathways. Unbiased transcriptomic analyses coupled with validation studies in cells, human tissues, and animals, support direct transcriptional control of the EXM machinery by KLF15. Liver-specific deficiency of KLF15 (Li-KO) results in altered expression of numerous phase I-III targets, and renders animals resistant to the pathologic effect of bile acid and acetaminophen toxicity. Furthermore, Li-KO mice demonstrate enhanced degradation and elimination of endogenous steroid hormones, such as testosterone and glucocorticoid, resulting in reduced male fertility and blood glucose level, respectively. Viral reconstitution of hepatic KLF15 expression in Li-KO mice reverses these phenotypes. Our observations identify a previously unappreciated transcriptional pathway regulating metabolism and elimination of endobiotics and xenobiotics.

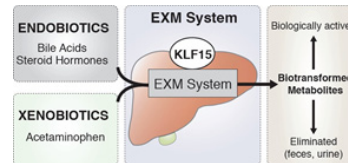


Figure 1. Schematic of KLF15-dependent regulation of EXM machinery and associated functions.

### Speaker Biography

Shuxin Han has been engaged in metabolic biology research for nearly 15 years. Dr. Han mainly studies the transcriptional regulation of metabolism by various transcription factors from previously nuclear receptors to currently kruppel-like factor (KLF) family. His recent academic achievements include three parts. First, Dr. Han opens a new research area of the KLF family regulation of endobiotic and xenobiotic metabolism. Second, Dr. Han discovers a novel patent therapeutic target for several human diseases such as liver injury and infertility. Third, Dr. Han expands and deepens the field of surgery metabolism.

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## Claudio Frasson

University of Padua, Italy

### The impact of the micro nutritional diet on psychophysical well-being and on human health

Essential micronutrients (EMNs) are defined as nutrients that cannot be synthesized by an organism and are more easily acquired through the diet. Minerals, which are obviously essential micronutrients, are cofactors or integral elements for at least one of our organism's proteins.

Therefore, it is not very important to differentiate macronutrients in diets, but rather to take various foods, optimizing, increasing, the contribution of EMN: all this is fundamental, for maintaining the optimal state of health. I applied these principles, based on the Mediterranean diet, on a fair number of patients 602 from 2012 to today obtaining excellent results (about 98%), for those who have admitted to having followed the food plan precisely, on relevant signs or symptoms that affect their sexual and social work life. These patients decreased mass and water retention, increasing mass and basal metabolism and breaking down visceral fat, falling in most cases.

The group I bring for example 56 patients with essential arterial hypertension who have reduced or even stopped their drug therapy; 57 with various dyslipidemias that had similar benefits to those for hypertension, with the discontinuation of the use of statins in 90% of cases; 18 patients with type 2

diabetes had benefits on basal blood glucose and on a drastic reduction in the percentage of glycosylated hemoglobin, and consequently the decrease in drug therapy.

In conclusion, the micro nutritional diet based on the Mediterranean diet, rarely offered both by specialists in the sector and by media around the world, as well as having a vast literature to confirm its validity, is a great way to eat healthy and nutritious that it certainly brings psycho socio-economic benefits, but basically maintains an optimal and long-lasting state of health.

#### Speaker Biography

Claudio Frasson has been a doctor for over 20 years, He deals with nutrition since 9. He was a general surgeon in Italy and the USA, he has often been in the United States to deepen his skills. In 2010 he graduated from Master's Degree in Population Nutrition and Food Safety and became a nutritionist. During the master he has mainly studied the skills on human micronutrition; subsequently he was a speaker several times at the international NUTRIMI congress, He wrote in Italian magazines for national dissemination, but above all he forged himself with the title of contract professor from 2013 at the Master 2 level in Food quality and safety University of Padua. He is co-supervisor of numerous Master's theses. In 2013 he was invited to report on micronutrition at the Miller school of Miami Diabete Institute.

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