Long Non-Coding RNA Genes (LncRNA) As Druggable Causes of Diabetes and Cancer For Post-Genomic Medicine

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Abstract: As Theodosius Dobzhansky wrote, "Nothing in biology makes sense, except in the light of evolution". Starting from the origin of life, this presentation introduced the Central Dogma of Molecular Biology, Human Genome Project, Encyclopedia of DNA Elements consortium, Genome-wide association studies, etc.. Prof. Lipovich presented highlights of his research results from the past 20 years, which demonstrate how primate-specific lncRNA genes, not conserved in evolution, directly contribute to the molecular mechanisms of human breast cancer and type 2 diabetes, where he is developing them into drug targets for RNA therapeutics. He expressed expectations for a major conceptual "revolution" in the next 10-20 years that will be driven by lncRNA proteogenomics, a new field he co-founded in 2012. Meanwhile, the author stated a vision for the post-genomic future: to define the phenotypic contribution of primate-specific lncRNAs to primate exceptionalism and to human disease; to improve both human health - by developing RNA as a target and a drug - and our understanding of what it means to be human.

Key words: Long Non-Coding RNA, post-genome, health, disease

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Below is the speech video: