# Kisspeptin and the Genetic Obesidome

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## BACKGROUND

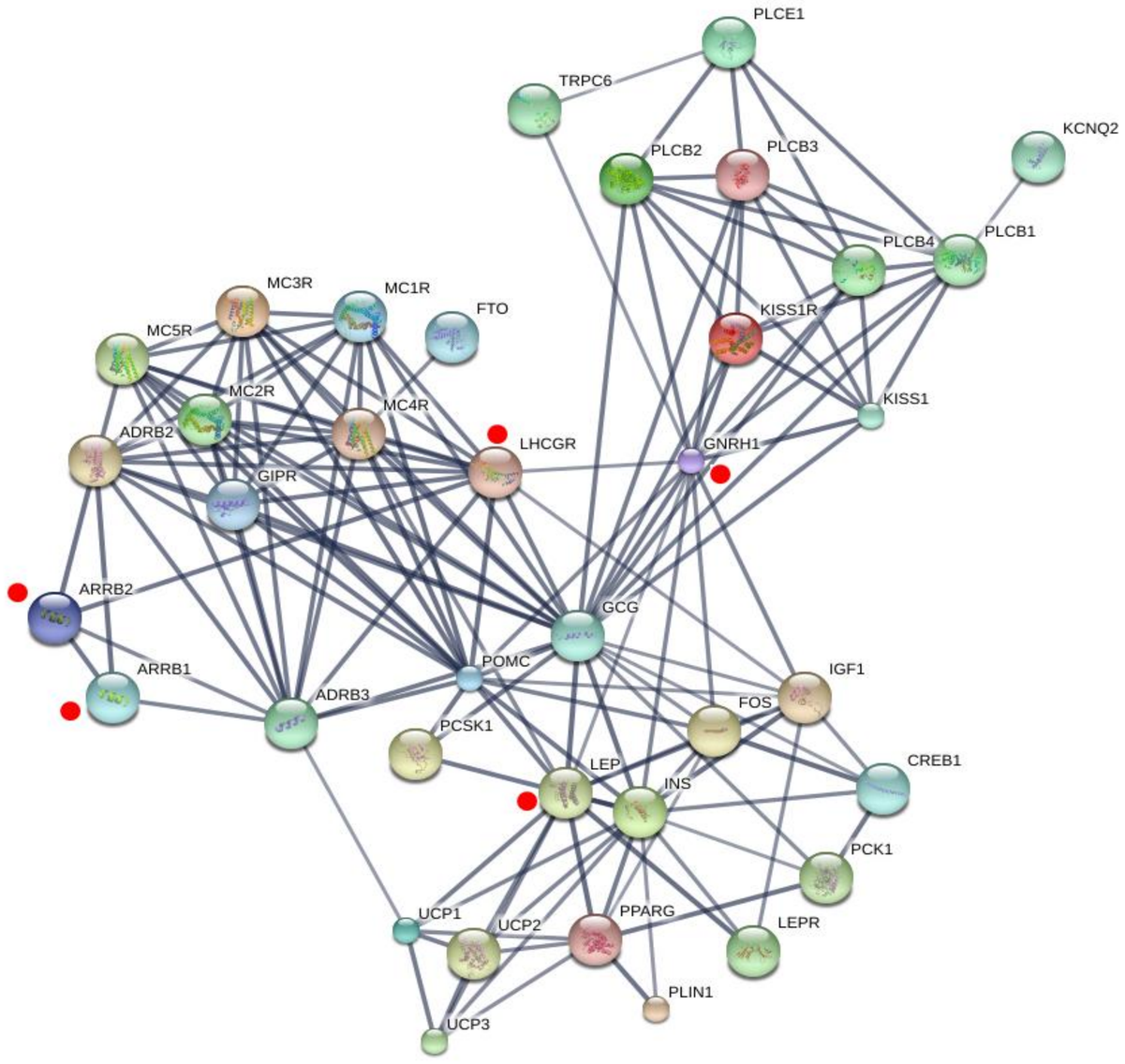
Kisspeptin (encoded by the *KISS1* gene in humans) is proposed to be an excitatory neuromodulatory peptide in multiple homeostatic systems including anti-oxidative effect, glucose homeostasis, role in nutrition status, locomotor activity etc. Thus in genetic obesity epidemic, kisspeptin becomes an interesting research target for the obesity-oriented investigators. .

## OBJECTIVES & HYPOTHESES

To construct a new interactome of genetic obesity, on account of increasing our knowledge on its physiology with kisspeptin signaling

## METHODS

Kisspeptin and obesity-related gene or gene products were extracted from the biomedical literature (Geronikolou 2017, Styne 2017, Nead 2015, Huyenne, 2015, Schaaf 2013, Challis 2013, Krude 1998). The interactions among them were created in the aid of STRING v10 (Szklarczyk et al., 2015), with a high confidence interaction score of 0.7-0.97.




## RESULTS

The intermediate nodes were also predicted, showing that KISS1 and KISS1R are connected directly to the luteinizing hormone receptor (LHCGR) gonadotrophin releasing hormone receptor (GNRH1) and indirectly, through them to propiomelanocortin hormone (POMC), glucagon, leptin (LEP) and/or proprotein convertase subtilisin/kexin-type, 1 (PCSK1) of the genetic obesity disorders. This enriched interactome involves 46 nodes of gene- gene products of known and/or predicted interactions.

## CONCLUSIONS

This new obesidome included kisspeptin and its connections to the genetic obesity signalisome. Gonadotrophin releasing hormone receptor (GNRH1), Glucagon (GCG), and Pro-opiomelanocortin (POMC) genes are identified as major "hubs" for the genetic obesity, giving fresh insight on body's energy homeostasis.

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## References

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