Author's response to reviews

Title: Comparative integromics approach for cryptorchidism evidences joint genomic relations with muscle-contraction pathway and Noonan syndrome

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Dear Editor,

we are submitting the manuscript entitled: “Comparative integratomics approach for cryptorchidism evidences joint genomic relations with muscle-contraction pathway and Noonan syndrome” by Carlo V Cannistraci et al.

In this manuscript we are presenting a central resource for cryptorchidism (CO) genetic research using comparative integratomics approach and molecular explanation for diverse clinical manifestations in Noonan syndrome.

The database and genomic visualization of collected CO candidate genes are publicly available on the web site. Based on the collected data the most significant CO-enriched pathways were proposed. Furthermore, a systems biology investigation of human protein-protein interactions, exploiting a network-based approach, yielded the discovery of 40 additional and novel CO candidate genes. Finally, we provided consistent evidence for joint genomic relations between CO, muscle-contraction pathway and cardiomyopathy as clinical features in Noonan syndrome.

Authors believe that the scope of the study is unique and very relevant in a field of research. The developed CO gene atlas will further facilitate development of novel pathway based CO associated genetic markers and might be of great support for functional studies in animals and human. The use of the network-based approach to explain joint genomic relations between CO and cardiomyopathy in Noonan syndrome might represent an example to follow for elucidating joint genomic features in the clinical picture of other syndromes.

“Comparative integratomics” approach described in this study presents an important research trend and could be of interest for a broad specter of researchers from the field of human and animal diseases.

Due to confidentiality during the revision process, the web page (online database) is temporarily accessible through: username (revisor) and password (r3v1s@r).

The authors declare that there are no conflicts of interest.

Best regards,

Tanja Kunej, PhD