

عنوان مقاله:

(Connectivity of the host proteins targeted by the same pathogen protein (CPTP

محل انتشار:

هشتمین همایش بیوانفورماتیک ایران (سال: 1397)

تعداد صفحات اصل مقاله: 1

نویسندگان:

بابک خرسند - نویسنده مقاله

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خلاصه مقاله:

PHIN (Pathogen Host Interaction Network) is a bipartite network which illustrates the protein-protein interaction (PPI) between pathogen and host proteins. In this network we look for the relationship between host proteins which targeted by the same pathogen protein. In bipartite network, projection is a graph which reached by connecting all of the neighbors of one mode. In the current research we looked for the existence percentage of real PPIs in one mode projection of different pathogens. In the other words, the number of interactions between the host proteins targeted by the same pathogen protein in Host PPI Network (HPPIN) over the number of edges of projection graph made by that pathogen protein. Human-Virus PPIN (HVPPIN) were chosen as PHIN in this research. By gathering Human-Virus PPIs from Intact[1], BioGrid[2], and VirusMint[3], HVPPIN with 844 different virus proteins forming 29097 interactions with human proteins is constructed. For each of 844 virus proteins, CPTP score has been calculated and compared with random model with the same degree distribution and same number of nodes. As a result, CPTP scores of real .classes are considerably higher than random classes

کلمات کلیدی:

Bipartite network analysis, Pathogen Host Protein, protein interaction, Projection

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