

Classification of protein-protein interactions in human red blood cells based on protein physicochemical properties

Afsaneh Maali¹, Mahmood A. Mahdavi², Reza Gheshlaghi³

ABSTRACT

A new feature was introduced and implemented to reconstruct a feature vector in support vector machine (SVM) method to classify protein-protein interactions (PPIs) in human red blood cells (RBCs). The feature is based on the physicochemical properties of protein amino acids and requires merely the amino acid sequences of the proteins for the analysis. The accuracy of ۷۸,۳٪ was obtained for classification method that is comparable to similar classifications with more dimensional features. The reasonable accuracy indicated that this feature is suitable for classification of protein-protein interaction information on red blood cell proteins using support vector machine.

KEYWORDS

Protein-protein interaction, red blood cell, support vector machine, physicochemical properties of proteins.

کنفرانس داده کاوی ایران

Department of Chemical Engineering, Ferdowsi University of Mashhad, Azadi Square, Pardis Campus, ۹۱۷۷۹-۴۸۹۴۴, Mashhad, Iran. Phone : ۰۰۹۸-۵۱۱-۸۸۰۵۰۰۸ Fax : ۰۰۹۸-۵۱۱-۸۸۱۶۸۴۰

¹ M.Sc. Student of chemical engineering; afsaneh.maali@stu-mail.um.ac.ir

² Assistant Professor of chemical engineering; corresponding author; mahdavi@ferdowsi.um.ac.ir

³ Assistant Professor of chemical engineering; gheshlaghi@ferdowsi.um.ac.ir