Perbedaan profil protein saliva subjek pelari dan nonpelari sebelum dan setelah diinteraksikan dengan streptococcus mutans ATCC 25175 = The salivary protein profile difference in runners and non runners subject before and after interacted with streptococcus mutans ATCC 25175 / Muhammad Irfan

Muhammad Irfan, author

Abstrak

ABSTRAK
Saliva merupakan zat eksokrin yang mengandung berbagai komponen, salah satunya adalah protein. Total protein dalam saliva dapat meningkat karena peningkatan aktifitas fisik, salah satu contohnya adalah aktifitas berlari. Di dalam rongga mulut, Streptococcus mutans merupakan mikroorganisme kariogenik yang memiliki peran penting dalam proses terjadinya karies. Tujuan: menganalisis perbedaan profil protein saliva yang diisolasi dari subjek pelari dan nonpelari sebelum dan setelah protein tersebut diinteraksikan dengan Streptococcus mutans ATCC 25175. Metode: sampel saliva unstimulated diambil dari 3 subjek pelari dan 3 subjek nonpelari. Identifikasi berat molekul protein saliva ditetapkan dengan menggunakan teknik SDS-PAGE dan pewarnaan commasie blue, sedangkan identifikasi interaksi protein saliva dengan Streptococcus mutans ditetapkan dengan menggunakan teknik SDS-PAGE, pewarnaan commasie blue dan Qubit Protein assay. Hasil: pada subjek pelari teridentifikasi protein dengan berat molekul sebesar 140 kDa, 100 kDa, 70 kDa, 50 kDa, 25 kDa, dan 15 kDa sedangkan pada subjek nonpelari teridentifikasi protein dengan berat molekul 70 kDa, 50 kDa, 25 kDa, dan 10 kDa. Interaksi protein saliva pelari dengan metode pewarnaan comassie blue tidak memvisualisasikan pita pada agar poliakrilamid sedangkan protein saliva subjek nonpelari terlihat pita sebesar 70 kDa. Interaksi protein saliva pelari dengan Streptococcus mutans dengan menggunakan Qubit Protein assay menunjukan konsentrasi sebesar 74,2 g/mL dan sebesar 93,2 g/mL pada saliva nonpelari. Kesimpulan: terdapat perbedaan profil dan berat molekul protein saliva pada subjek pelari dan nonpelari dan interaksi protein dengan Streptococcus mutans hanya tervisualisasikan pada protein saliva yang berasal dari subjek nonpelari.
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ABSTRAK
Background Saliva is an exocrine substance containing various components, one of which is protein. The amount of total proteins in saliva may increase due to physical activity, namely running. In the oral cavity, Streptococcus mutans is a cariogenic microorganism that is vital in the forming process of caries. Objective Analyze the difference in salivary proteins profiles on subjects who are runners compared to non runners before and after the proteins are interacted with Streptococcus mutans ATCC 25175. Method Samples of unstimulated saliva were taken from 3 subjects who were runners and 3 subjects who were non runners. Identification of total molecular weight in salivary proteins was done using comassie brilliant blue color staining with the SDS PAGE technique. Identification of interaction in salivary proteins with Streptococcus mutans was also done using comassie brilliant blue color staining using SDS PAGE technique and Qubit Protein assay. Results In subjects who were runners, identification of molecular weight in the salivary protein results were 140 kDa, 100 kDa, 70 kDa, 50 kDa, 25 kDa, and 15 kDa while in non runners the

identification of molecular weight in the salivary protein results were 70 kDa, 50 kDa, 25 kDa, and 10 kDa. Interaction of salivary proteins in runners using comassie blue coloring did not result in visualization of band on polyacrilamide agar while in non runners a band of 70 kDa was observed on polyacrilamide agar. Interaction of salivary proteins with Streptococcus mutans using Qubit Protein assay showed a concentration of 74.2 g mL in runners and 93.2 g mL in non runners. Conclusion There is a difference of proteins profile and molecular weight in subjects who were runners and non runners and proteins interaction with Streptococcus mutans is only visualized in the salivary proteins derived from non runners subject.