Academic year 2021./2022.

Course title: **Saliva as diagnostic specimen**

Department: **Pharmacology**

Address: **Šalata 11**

Total ECTS points: **1,5**

Course leader: **Associate professor Ivana Šutej**

Course associates:

Professor Iva Alajbeg

Associate professor Kristina Peroš

Assistant professor Lea Vuletić

Master of Medical Biochemistry and laboratory medicine Ivana Lapić

Teaching plan

	No. classes
Lecture	3
Seminar	6
Practical	6
Total	15

1 class = 45 minutes

Course description

Saliva is a complex biological fluid that contains numerous bio-molecules such as cell of immune system, proteins, hormones, enzymes, ions and other substances that maintain physiological state of an organism. Consider the simplicity by which saliva can be collected and the non-invasive characteristics of collection it is clear that saliva is a more acceptable for diagnostic tests than blood. Saliva as diagnostic specimen could be more suitable for investigations and diagnostics in future. Although blood analysis is still main diagnostic tool, development of new, highly sensitive methods and technologies allowed application of molecular analyses of saliva components, whose concentrations are very small. Therefore, investigation of molecular biomarkers is proceeding and could help in detection of the disease from the earliest phase. With such early diagnosis, treatment could be more successful, complications could be more preventable and it would overall improve patient's quality of life. Besides, saliva is suitable for mass screening for example in sport competitions. In dentistry, with the help of biomarkers it is possible to detect and monitor progression of oral cancer. Saliva could be also used as accessory medium for the diagnosis of periodontal disease and caries. The future of salivary diagnostics will depend on the combination of biomarkers because one biomarker is not a reliable and accurate indicator of pathogenesis of the underlying disease

Learning outcomes

1. Identify clinical conditions in which saliva is possible diagnostic specimen
2. Select the appropriate saliva test for chosen biomarker

3. Properly collect a sample of saliva suitable for further laboratory processing and properly handle the sample
4. Evaluate the meaning of laboratory findings from the saliva

Course contet

Lecture

	Lecture topics	Number of classes/hours
1.	- Concept development for saliva as diagnostic tool	-
2.	- Biomolecular link of saliva and blood	-
3.	- Excretion and drug concentration level regulation in saliva	-
4.	-	-
5.	-	-
6.	-	-
7.	-	-
8.	-	-
9.	-	-
10.	-	-

1 sat = 45 minuta

Seminars

	Seminar topics	Number of classes/hours
1.	-Amylase as salivary biomarker	-
2.	- Malignant conditions and salivary biomarkers	-
3.	-Salivary biomarkers of oxydative stress	-
4.	- Cardiovascular and kidney diseasis reflection in saliva	-
5.	-Hormones in saliva, Sports and saliva	-
6.	- Saliva and drug abuse	-
7.	-	-
8.	-	-
9.	-	-
10.	-	-

1 sat = 45 minuta

Practicals

	practicals topics	Number of classes/hours
1.	- Physiological properties and composition of saliva I	-
2.	- Physiological properties and composition of saliva II	-
3.	- Saliva, biofilm and caries I	-
4.	- Saliva, biofilm and caries II	-
5.	- Saliva and periodontal disease I	-
6.	- Saliva and periodontal disease II	-
7.	-	-
8.	-	-
9.	-	-
10.	-	-

1 class = 45 minutes

Literature

Edgar M., Dawes C., O'Mullane D. Saliva and oral health, an essential overview for the health professional. 4th edition. Oxfordshire: Stephen Hancocks Limited; 2012

Ligtenberg A.J.M., Veerman E.C.I. Saliva: Secretion and Functions. 1st edition.Basel: Krager; 2014

Streckfus C. ed. Advances in Salivary Diagnostics. 1st edition. New York: Springer; 2015

CV (*curriculum vitae*) and bibliography of course leader

Ivana Šutej

Bibliography:
https://www.bib.irb.hr/pretraga?operators=and|%C5%A0utej,%20Ivana%20%2828174%29|text|profile

Ivana Šutej is an associate professor at the Department of Pharmacology, School of dental medicine, University of Zagreb, whose head she was from 2018-2021. She actively participates in scientific and clinical work, as well as student training. She teaches several courses and participates in the teaching of integrated study of Dental Medicine, of the courses Pharmacology and Clinical Pharmacology, Toothpaste preparation, Prescribing drugs in clinical dental practice. She is also the course leader and of courses in postgraduate specialist and doctoral studies. She is the author and co-author of several scientific and professional papers as well as book chapters. She actively participates in international and domestic scientific and professional conferences. She is a member of the Croatian Society of Pharmacologists and the Federation of European Pharmacological Societies (EPHAR).