

Medicinski fakultet u Rijeci

**IZVEDBENI NASTAVNI PLAN
2024/2025**

Za kolegij

**Cell Growth and Cell Cycle Regulation in Physiological
and Pathological Conditions**

Studij:	Medical Studies in English (R) (izborni) Sveučilišni integrirani prijediplomski i diplomski studij
Katedra:	Zavod za molekularnu medicinu i biotehnologiju
Nositelj kolegija:	prof. dr. sc. Volarević Siniša, dr. med.
Godina studija:	3
ECTS:	1.5
Stimulativni ECTS:	0 (0.00%)
Strani jezik:	Mogućnost izvođenja na stranom jeziku

Podaci o kolegiju:

Cancer pathogenesis involves the dysregulation of several cellular processes, including cell growth and division. The course aims to explain the differences in cell growth and cell cycle regulation between normal and cancerous cells to the students. Students will also be informed about the implications of this knowledge for developing novel diagnostic and prognostic biomarkers for cancer and personalized anti-cancer treatments.

Popis obvezne ispitne literature:

Lodish H., Berk A., Zipursky S.L., Matsudaira P., Baltimore D., Darnell J.E. (1999) Molecular Cell Biology. 4th edition, W H Freeman & Co (Poglavljja 20 i 24)

Popis dopunske literature:

1. Alberts B., Bray D., Lewis J., Raff M., Roberts K., Watson J.D. (1994) Molecular Biology of the Cell. 3rd edition, Garland Publishing, Inc., New York & London (Poglavljja 15 i 17)
2. Veliki broj originalnih i preglednih članaka

Nastavni plan:

Predavanja popis (s naslovima i pojašnjenjem):

A short review of the hallmarks of cancer

A short review of the hallmarks of cancer

Definition of cell growth and cell division

Definition of cell growth and cell division.

Seminari popis (s naslovima i pojašnjenjem):

Signaling pathways involved in cell growth and cell cycle regulation

Signaling pathways involved in cell growth and cell cycle regulation

Signaling pathways involved in cell growth and cell cycle regulation (I. i II.)

Signaling pathways involved in cell growth and cell cycle regulation

Molecular mechanisms of cell growth

Molecular mechanisms of cell growth .

Regulators of cell cycle

Regulators of cell cycle.

Cell cycle checkpoints

Cell cycle checkpoints

Abnormalities of cell growth and cell cycle in cancer

Abnormalities of cell growth and cell cycle in cancer

Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer

Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer

Obveze studenata:

Student course attendance, course preparation (assigned reading), and exam are obligatory.

Ispit (način polaganja ispita, opis pisanog/usmenog/praktičnog dijela ispita, način bodovanja, kriterij ocjenjivanja):

Evaluation would be performed according to the actual Rules on studies of the University of Rijeka (approved by the Senat) and the Faculty of Medicine (approved by the Faculty council). In this system, the overall students' outcome is made up of 70% of their achievement during the course itself and 30% of their success in the final exam. The oral presentation of a particular segment of the course content is an obligatory part of the final exam.

Ostale napomene (vezane uz kolegij) važne za studente:

Course content:

1. A short review of the hallmarks of cancer
2. Definition of cell growth and cell division
3. Growth factor receptors
4. Signaling pathways involved in cell growth and cell cycle regulation
5. Molecular mechanisms of cell growth
6. Regulators of cell cycle
7. Cell cycle checkpoints
8. Abnormalities of cell growth and cell cycle in cancer
9. Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer

SATNICA IZVOĐENJA NASTAVE 2024/2025

Cell Growth and Cell Cycle Regulation in Physiological and Pathological Conditions

Predavanja (mjesto i vrijeme / grupa)	Seminari (mjesto i vrijeme / grupa)
10.03.2025	
A short review of the hallmarks of cancer: • P05 (15:30 - 19:00) ^[154] ◦ CGCCR Definition of cell growth and cell division: • P05 (15:30 - 19:00) ^[154] ◦ CGCCR	
prof. dr. sc. Volarević Siniša, dr. med. ^[154]	
11.03.2025	
	Signaling pathways involved in cell growth and cell cycle regulation: • P07 (15:30 - 19:45) ^[154] ◦ CGCCR Signaling pathways involved in cell growth and cell cycle regulation (I. i II.): • P07 (15:30 - 19:45) ^[154] ◦ CGCCR
prof. dr. sc. Volarević Siniša, dr. med. ^[154]	
12.03.2025	
	Molecular mechanisms of cell growth: • P06 (15:30 - 19:45) ^[154] ◦ CGCCR Regulators of cell cycle: • P06 (15:30 - 19:45) ^[154] ◦ CGCCR Cell cycle checkpoints: • P06 (15:30 - 19:45) ^[154] ◦ CGCCR
prof. dr. sc. Volarević Siniša, dr. med. ^[154]	
13.03.2025	
	Abnormalities of cell growth and cell cycle in cancer: • P03 - INFORMATIČKA UČIONICA (08:30 - 11:00) ^[154] ◦ CGCCR
prof. dr. sc. Volarević Siniša, dr. med. ^[154]	
17.03.2025	
	Abnormalities of cell growth and cell cycle in cancer: • P07 (15:30 - 19:00) ^[154] ◦ CGCCR Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer: • P07 (15:30 - 19:00) ^[154] ◦ CGCCR

Popis predavanja, seminara i vježbi:

PREDAVANJA (TEMA)	Broj sati	Mjesto održavanja
A short review of the hallmarks of cancer	2	P05
Definition of cell growth and cell division	2	P05

SEMINARI (TEMA)	Broj sati	Mjesto održavanja
Signaling pathways involved in cell growth and cell cycle regulation	4	P07
Signaling pathways involved in cell growth and cell cycle regulation (I. i II.)	3	P07
Molecular mechanisms of cell growth	3	P06
Regulators of cell cycle	3	P06
Cell cycle checkpoints	2	P06
Abnormalities of cell growth and cell cycle in cancer	3	P03 - INFORMATIČKA UČIONICA P07
Cell growth and cell cycle dysregulation may reveal therapeutic liabilities in cancer	3	P07

ISPITNI TERMINI (završni ispit):
