

Tematica si bibliografia pentru concursul de ocupare post vacant de cercetator stiintific chimisit-Laborator de cercetare chirurgie generala, transplant chirugie experimental

Tematica:

1. Metode de analiza moleculara a cromozomilor – tehnica FISH
2. Tehnica de Real Time PCR (principiu si aplicatii)
3. Metode de evaluare a expresiei genice:tehnica de microarray, RNASeq (definitie, etape, probleme tehnice)
4. Secventierea AND (tipurile de tehnici de secventiere a ADN si principiile lor, utilitatea, avantaje si dezavantaje
5. Tehnica de Western Blot: principiu si aplicatii, probleme tehnice
6. Metode de deteminarea cantitativa a proteinelor (tehnica ELISA)
7. Culturi celulare normale si tumorale: tipuri, etape de lucru
8. Avantaje si dezavantaje ale culturilor celulare in sisteme 2D si 3D, organoizi
9. Aplicatii ale culturilor celulare in oncologie
10. Tranzitia epitelial-mezenchimala oncogenica
11. Mecanisme ale invaziei neoplazice
12. Spatiul si conditiile necesare functionarii laboratorului de biologie moleculara

1. Alberts B, Johnson A, Lewis J, et al. Molecular Biology of the Cell. Sixth edition. Garland Science; Taylor & Francis, NY 10016 USA, Pag: 1-1342, ISBN978-0-8153-4432-2
2. Lodish et al. Molecular Cell Biology, Ninth edition. 2021, ISBN-13: 978-1319208523, ISBN-10: 1319208525
3. Nelson DL, Cox MM: Principles of Biochemistry Publisher: W. H. Freeman; Seventh Edition (January 1, 2017), ISBN-101464126119, ISBN-13:978-1464126116
4. Freshney, R.I., Culture of animal cells: a manual of basic technique and specialized applications; Publisher: Wiley- Blackwell; 6th edition (September 17, 2010) ISBN 978-0-470-52812-9.
5. Weinberg RA. The Biology of Cancer, 2nd Edition. W. W. Norton & Company, 2013, DOI<https://doi.org/10.1201/9780429258794>, eBook ISBN9780429258794