

Research Lab Sheet

Lab Name	Nanobiology lab
Academic Year	2021-2022

Basic Information	
Department	Zoology
Location	Faculty of science building no.3
Total area (m²)	36
Head of the lab	Ass. Prof. dr. Aziz Awaad Aziz
Establishment date	2019

Lab Members				
No. of Prof.	No. of Ass. Prof.	No. of Lect.	No. of Ass. Lect. & Demonstr.	No. of technicians
0	1	0	1	0

Staff members

#	Name	Scientific degree	e-mail	Specializations	C.V
1	Aziz Awaad Aziz	Ass. prof.	aawaad@science.sohag.edu.eg	Histology and histochemistry-nanobiology	
Ass. Lecturers & Demonstrators					
#	Name	Scientific degree	e-mail	Specializations	
1	Ahmed Rushdy Thabet	Demonstrator	Ahmed.roshdy@science.sohag.edu.eg	Comparative microanatomy	

Articles produced by the Lab

#	Title	Journal information
1	Awaad A. The biodistribution of melanomacrophages and reactivity of PEG or amine-functionalized iron oxide nanoclusters in the liver and spleen of Egyptian toad after intraperitoneal or oral injections: Histochemical study.	Acta Histochem. 2020 Oct;122(7):151629. doi: 10.1016/j.acthis.2020.151629.
2	Awaad A, Nakamura M. Size-dependent biodistribution of thiol-organosilica nanoparticles and F4/80 protein expression in the genital tract of female mice after intravaginal administration.	Histochem Cell Biol. 2021 Mar 3. doi: 10.1007/s00418-021-01974-1.
3	Awaad, A., Abdel Aziz, H.O. Iron biodistribution profile changes in the rat spleen after administration of high-fat diet or iron supplementation and the role of curcumin.	J Mol Histol 2021 May 28. https://doi.org/10.1007/s10735-021-09986-w
4	Awaad A, Rushdy A, Adly MA. Comparative microanatomical and histochemical biodistribution profiles of different types of mucins in oesophageal gastric tract mucosa of some tetrapod representatives.	Histochem Cell Biol. 2021, in press

Instruments Description	
Device image	Description /use
	This type of microtome is used in sectioning process after the paraffin wax infiltration in animal tissues and produce a ribbon of wax with a thin diameter in micron width.
	This microscope with or without a camera built in, it can be used in: 1- taking a high-quality image with high resolution 2- studying the normal and abnormal tissue sections 3- studying the advanced immunohistochemical stained sections. 3- viewing different types of histological, histochemical and histopathological tissues and analyzing them.
	This microwave is used in the immunohistochemical staining process in order to make antigen retrieval process in the tissue sections.

Instruments Description	
Device image	Description /use
	The incubator is used in storing some tissue sections and some solutions in a selected temperature as well as it is used in carrying out some experiments in a fixed temperature
	The water bath is used in demarcation of the wax ribbons in the histological, histochemical, immunohistochemical and Nano biological tissue sectioning process as well as preparing some specific histochemical stains.

Instruments Description	
Device image	Description /use
	This fridge is used to store important chemical and Nano biological materials that used in histological, histochemical and Nano biological researches.
	The oven wax is used in melting paraffin wax and in the wax infiltration process of the animal tissue through the histological, histochemical, immunohistochemical and Nano biological tissue sectioning process.
	The hot plate and stirrer is used in preparing some important specific stains used in the histological, histochemical, immunohistochemical and Nano biological tissue sectioning process.

Lab instruments						
#	Device	quantity	Quality			
			Good	Poor	Need maintenance	malfunction
1	Rotary Microtome	1	✓			
2	Microwave	1	✓			
3	Incubator	1	✓			
4	Wax oven	1	✓			
5	Hot plate	1			✓	
6	Water bath	1	✓			
7	fridge	1	✓			
8	Axiocam light microscope	1	✓			
9	Light microscope	2	✓			

Evaluate the fulfillment of lab to appropriateness of areas, building installations, facilities and human resources standards

Areas of assessment		Indicators	Yes	Somewhat	No
Floor area and capacity	1	Adequacy of the total capacity of the lab for the number of researcher (1).			✓
Windows and doors	2	Availability of windows for adequate ventilations.	✓		
	3	Ease of use of windows.		✓	
	4	There are two exits (doors) at least (2).			✓
	5	There are signs to locate directions of emergency exits			✓
Equipment	6	Appropriate temperature during the lectures (3).	✓		
	7	Availability of good ventilation (4).	✓		
	8	The existence of adequate lighting (4).		✓	
	9	Lab is connected to the Internet	✓		
	10	The existence of directions inside the Lab showing entrances and emergency exits.			✓
Security and Safety	11	Existence of firefighting equipment near the hall (5).			✓
	12	Cleanliness of the room.		✓	