

14/8/2012

Lab 306 Britania Building

Programa Vered Padler-Karavani, PhD: Glycoimmunology biological lab

Room 306, Department of Cell Research & Immunology, Faculty of Life Sciences, Tel-Aviv University

Specifications: Space to be renovated:

- 1. Lab room 306 – complete renovation, without breaking any walls and leave general plan as is; Renovate:** ceiling, floors, windows, furniture, bench design, power, etc;
- 2. The extra space on the left side of the lab – minimal renovation,** currently dedicated to two TC work rooms and will continue to be used for biological hoods work. **Renovate:** Paint, add power/communication points as needed (walls, floor, ceiling remain as is).

Full description of items and requirements (power, communication, safety) in each area is detailed in “**PROGRAMA VPK.xlsx**” file.
In all rooms as much as possible storage units are required:

	Designated area	Approx. Size (m ²)	Main large equipment	Comments
1	Main lab	6x6+3x2=42	HPLC, microplate reader, array scanner, PCR, centrifuges etc. ; Chemical hood remains as is (add two benches on either side: on the left – lower bench for HPLC, scanner, and on the right for RNA); Total 9 benches: 6-bench "island", additional 3 benches for designated use (DNA, RNA, Western), HPLC lower bench (next to Chemical hood); 6 student desk (computers, printer); 8 power outlets per bench/desk, communication spots; 2 sinks; Storage, power, communication.	Main Lab area based on Oren Kobiler's lab (Medicine 835). In addition, need to design the chemical hood and sinks areas
2	Glycan Microarray clean room	3x3.5 = 10.5	Printer (including solution 10L containers), Aluminum table, mini fridge, mini freezer. (NGS system in the future). Storage, power, communication. **Preferably, glass walls (or half way) to allow view from outside. ***Need to have close by access to a top table centrifuge and a sink.	* Clean room to the extent budget allows: *No windows in room; Entrance to room by double door (approx 1x1 sqm) for dress-up (gowning room); aircondition should NOT push air directly on printer; walls and ceiling without particle shedding materials (Aluminum and glass, extended to the ceiling). Inner walls to be painted with strong Oil paint. Door should be wide enough to allow access for printer + Table installation (also need to check if it will fit in through the doors and corridors that lead to the printer room).
3	Office	2.5x3.5 = 8.75	Desk, chair, 2 guest chairs, small sofa, computer, printer. Storage, power, communication.	Open window to South side. Brick walls.
4	Students lounge	2x3 = 6	Sink, desk (computer, printer), round table (6 people), small sofa, mini fridge. Storage, power, communication.	Open window to West side.
5	TC room	2.5x3 = 8.75	2 Hoods, 2 Incubators, bench, sink, refrigerator, centrifuge. Storage, power, communication.	Minimal renovation
6	Bacterial/phage work room	2x3 = 6	Hood, 2 Incubators, bench, sink, refrigerator, centrifuge. Storage, power, communication.	Minimal renovation

Tentative space allocation:

Additional comments for room 306 renovations (main lab framed in Red):

- Power safety for power-breaks (**generator electricity points**) are needed for: HPLC, -80C freezer and array printer. (need to incorporate into electricity plan).
- Alerts for power breaks are needed for -80C freezer and array printer.
- Only the 'clean room' requires special conditions, all other areas are standard cleaning for office/lab.
- Air conditioning units in each room (+ special filter for the clean room)
- Doors and windows to be replaced only in main lab area.

List of Materials:

Antibodies	COMPANY	CAT#	AMOUNT	MW	Store	AP-SUBSTRATE
HRP-Mouse-anti-human-IgG4	ZYMED	05-3820	0.5 ml		4C	90 ml H2O
HRP-Mouse-anti-human-IgG1	ZYMED	05-3320	0.5 ml		4C	100µl 1M MgCl2
HRP-Mouse-anti-human-IgG3	ZYMED	05-3620	0.5 ml		4C	1 g Na2CO3
HRP-Mouse-anti-human-IgG2	ZYMED	05-0520	0.5 ml		4C	--> pH 9.85 with HCl
FITC- Affinity pure Goat-anti-human IgG Fc specific	Jackson-ImmunoResearch	109-095-098	1 mg (make 1 mg/ml)		4C	Add p-NPP
HRP-Goat-anti-human IgM (µ) affinity purified	KPL (Kirkegaard & Perry Laboratories)	074-1003	1 mg (make 1 mg/ml)		4C	QS to 100 ml
HRP-Goat-anti-human IgD	BETHYL	A80-106P	1mg/ml (1ml)		4C	Aliquot 10 ml/15 ml tube
HRP-Goat-anti-human IgA (a-chain)	CALBIOCHEM	401135	2ml		4C	store in -20C, dark (foil)
HRP-Goat-anti-human IgG	BIO-RAD	172-1050	1 ml		4C	
AP-Goat-anti-human IgG (H+L) affinity purified	BIO-RAD	170-6521	1 ml		4C	
ChromPure Human IgG, whole molecule	Jackson-ImmunoResearch	009-000-003	10 mg (12 mg/ml)		4C	
ChromPure Human IgA, serum	Jackson-ImmunoResearch	009-000-011	2 mg (4.4 mg/ml)		4C	
ChromPure Human IgM (myeloma), whole molecule	Jackson-ImmunoResearch	009-000-012	2 mg (4.4 mg/ml)		4C	
Cy3-AffinityPure Donkey-anti-chicken IgY (H+L)	Jackson-ImmunoResearch	703-165-155	0.5 mg		4C	
HRP-SA	Jackson-ImmunoResearch		1 mg/ml		-20C	
Cy3-AffinityPure Goat-anti-human Igg (H+L)	Jackson-ImmunoResearch	109-165-088	X mg --> 0.75 mg/ml in 50% gly		4C	
Cy3-AffinityPure Goat-anti-mouse IgG Fc specific	Jackson-ImmunoResearch	115-165-071	1.5 mg/ml in 50% glycerol		4C	
HRP-Goat-anti-human IgG Fc specific	Jackson-ImmunoResearch	109-035-008				
HRP-Goat-anti-mouse IgG Fc specific	Jackson-ImmunoResearch	115-035-071				
Materials						
OPD (o-Phenylene-diamine) dihydrochloride	SIGMA	P-1526	100 gr	181.1	-20C	C6H8N2.2HCl
Bovine Fibrinogen	SIGMA	F-8630	25 gr		-20C	
Protein-A	PIERCE	21181	1 mg/ml (50% glycerol)		-20C	
p-NPP (4-Nitrophenyl phosphate di (tris) salt)	SIGMA	N-3254			-20C	
Neu5Ac	NACALAI	08371 (2187)			-20C	
BSM	SIGMA	M3895-	100 mg			
DMB (4,5-Methylenedioxy-1,2-phenylenediamine dihydrochloride)	SIGMA	D4784	100 mg			
PNGase-F	NEB	P0705S	500K U/ml		4C	5 ul (2500U) diluted to 2.5 ml in sterile buffer (20 mM HEPES-pH7.5, 50 mM NaCl, 5mM EDTA); Aliquote 300ul/tube 1U/ul
Ovalbumin	SIGMA	A5503	50 gr		4C	
Hydrogen Peroxide 30 % (H2O2)	FISHER SCIENTIFIC	H325-500	500 ml		4C	
2-ME (2-Mercaptoethanol)	SIGMA	m3148	100 ml		4C	
Imject Freund's complete Adjuvant	THERMO SCIENTIFIC	77140			4C	
Imject Freund's Incomplete Adjuvant	THERMO SCIENTIFIC	77145			4C	
D-Glucuronic acid (Glc-A)	SIGMA	G-5269	10 gr		RT	
Tween-20	SIGMA	P7949	500 ml		RT	

Sodium borohydride Venpure	SIGMA	632287	100 gr	RT
Sodium-meta-periodate	????			RT
Ethanolamine	SIGMA	E9508	100 ml	RT
ECL - Super signal west pico chemiluminescent substrate	THERMO SCIENTIFIC	34080	500 ml kit	4C
GelCode Blue-stain reagent	THERMO SCIENTIFIC	24590	500 ml	4C
Fish Gelatin	SIGMA	G7765	1 L	4C
Acetonitrile	FISHER SCIENTIFIC	A996-4	4 L	RT

MATERIAL

Amicon Ultra centrifugal filters 10K	MILLIPORE	UFC5010BK	
Amicon Ultra centrifugal filters 3K	MILLIPORE	UFC900324	

Bacterial tubes 6ml 12x75 mm FALCON 2063

ELISA PLATES COSTAR 9018
ELISA PLATES COSTAR 3897

BIOMETRA FASTBLOT
(FOR TRANSFER)
SNAP PROTEIN
DETECTION SYSTEM + MILLIPORE

0E1~...~1~1~0
Buffers (Tris, PBS, HEPES
ETC.)
Acids (H2SO4, HCl, Acetic
acid etc)
Base (NaOH, KOH)
Sugars (Sialic acids, Glucose,
Galactose, GlcA etc)

Programa Glycoimmunology lab: Dr Vered Padler-Karavani

(W x D x H): WIDTH X DEPTH X HEIGHT

Tentative designated areas are estimated size only, may need to reduce size to accommodate available lab space.

#DESIGNATED AREA	Equipment	Number of Items	Dimensions (cm)	Weight	Watt/item	Comment
	CLEAN WATER SYSTEM					
			(W x D x H)			
TC room (approx 3x3 sqm):	Tissue Culture Biological Hood (including power inlet inside?)	2	130x90x230		1400	
	Suction pump	2			300	
	TC CO2 Incubator (including power inlet inside; for vortefuge, electric pipetor etc)	2	60x60x95		75	one on top of the other
	Tissue homogenizer	2			300	stored in closet, opened in hood for use
	Sonicator	1			500	on bench
	Bench	1			NA	
	Inverted Microscope	1			50	on bench
	Refrigerated benchtop Centrifuge (Eppendorf 5810R)	1	70x61x35		1400	
	Sink (regular)	1			NA	
	Water bath 10L	1	70x50x30		500	on bench
	Refrigerator + Freezer (Standard)	1	60x60x200		700	
	Liquid Nitrogen container	1			NA	will be kept outside the lab
	Open shelves for storage				NA	
	Closet under the sink with shelves.	1			NA	
	2-door closet for storage	1			NA	
	Drawer unit under the bench	1			NA	
	Power inlets (8 per hood, 8 per bench, refrigerator, incubators etc.)	36			NA	
Communication points for computer	4			NA		
Telephone point	1			NA		
			(W x D x H)			
Bacterial/phage work room (approx 2x3 sqm):	Biological Hood	1	130x90x230		1400	Check if available: power inlet inside the hood.
	Suction pump	1			300	
	Inverted Microscope	1			50	on bench
	Refrigerator + Freezer (Standard)	1	80x80x180		700	
	Sink (regular)	1			NA	
	Incubator (including power inlet inside; for vortefuge, electric pipetor etc)	2	80x80x80		200	one on top of the other
	Shaker	2	60x60x70		200	one on top of the other
	Refrigerated benchtop Centrifuge (Eppendorf 5810R)	1	70x61x35		700	
	Refrigerated microfuge (Eppendorf 5430R)	1	38 x 64 x 29		250	
	Bench	1			NA	
	96-well plate orbital shaker (on bench)				150	on bench
	Closet under the sink with shelves.	1			NA	
	2-door closet for storage	1			NA	
	Drawer unit under the bench	1			NA	
	Power inlets (8 per hood, 8 per bench, refrigerator, incubators etc.)	25			NA	
	Communication points for computer	4			NA	
	Telephone point	1			NA	
			(W x D x H)			
Glycan Microarray clean room (approx 4x3 sqm):	The NanoPrint LM 60 Microarray Printer (+2x10L solution tanks)	1	80x78x53 cm	150 kg	500	

SQM

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6

12

allows: *No windows in room, Entrance to room by double door (approx 1x1 sqm) for dress-up (gowning room), aircondition should NOT push air directly on printer, walls and ceiling without particle shedding materials (Aluminum and glass, extended to the ceiling). Inner walls to be painted with strong Oil paint.			183x91x91 cm		NA	Printer and Table come in two large wooden boxes (crates). Here are the weights and dimensions of the crates: 2 crates – 250 lbs each. Crate #1: 152.4cm wide x 96.52cm deep x 91.44 cm tall. Crate #2: 101.6cm wide x 96.52cm deep x 81.28cm tall. We may need to open the crates outside and bring in using cart...
Door should be wide enough to allow access for printer+Table installation.	^^Winix 5500 PlasmaWave™ Air Purifier	1			70	^^or add a filter to the airconditioner (3M Filtrete Air Conditioner Filter, 15-Inch by 24-Inch (9808-12))
**Glass walls (or half way) to allow view from outside	Working station desk + computer and monitor	2			220	
***Need to have close by access to a top table centrifuge and a sink	Inverted Microscope	1			50	on bench
Temp: 18-24C	mini Refrigerator 4C	1	60x55x90		200	
Humidity around or above 50%	mini Freezer -20C	1	60x55x90		200	
	Bench	2			NA	
	2-door closet for storage	1			NA	
	Drawer unit under the bench	2			NA	
	Power inlets (8 per bench, refrigerator,printer	20			NA	
	Communication points for computer	8			NA	
	Telephone point	1			NA	
			(W x D x H)			
Materials and storage designated area (prefer to close in a room 2.5*2.5 sqm)	Steel closet for flammables	1	90x45x200		NA	
I prefer to have it in a closed are such as a room approx 2.5x2.5 sqm	Material closet	1	90x45x200		NA	
	Material shelves unit (no doors)	1			NA	as many as possible
	bench	2			NA	
	Revco freezer -80C	1	90x85x200		800	
	No frost freezer -20C	1	60x60x200		700	
	Refrigerator 4C	1	70x70x180		700	
	Fine chemical scales	1			50	on bench
	Regular scales	1			50	on bench
	Magnetic stealers (w or w/o heating)	3			10	on bench
	pH meter	1			NA	on bench
	Bench (where all above equipmet is)	2			NA	
	2-door closet for storage under the bench	2			NA	
	Drawer unit under the bench	2			NA	
	Power inlets (8 per bench, refrigerator, etc.)	15			NA	
			(W x D x H)			
Office (*approx 2.5x3 sqm):	corner Desk + office chair	1			NA	
need to explore options for better storage	guest chairs	2			NA	
	2 person small sofa	1	120x50		NA	
	Computer	2			220	
	printer/SCANNER	1			600	
	closets with glass doors for storage	2			NA	
	closets with regular doors for storage	2			NA	
	Drawer unit under the desk	2			NA	
	open shelves stand	1			NA	
	Power inlets computer ,printer etc	10			NA	
	Communication points for computer	10			NA	
	Telephone point	2			NA	
	communication HUB (for 20 stations)	1			NA	AS IN IRIT GAT-VIKS LAB
			(W x D x H)			
Students lounge (*approx 2.5x3 sqm):	Kitchen Sink	1			NA	

6.25

7.5

7.5

	2-door closet for storage (under and above) the sink	2			NA	
	mini refrigerator 4C	1	60x55x90		200	
	small kitchen round table + 4-6 chairs				NA	only if space allows
	desk	1 or 2			NA	
	computer	1 or 2			220	
	color printer	1			600	
			(W x D x H)			
Main lab	6-bench "Island"	1			NA	
	1-door closet for storage under the bench (with extending shelf)	3			NA	
	Drawer unit under the bench	6			NA	
	mini refrigerator -20C	2	60x55x90		200	
	Power inlets 8 per bench	48			NA	
	Vaccum units in each bench	6			NA	
	Power inlets computer ,printer etc	30			NA	
	Communication points for computers etc	20			NA	
	desk (along the windows wall)	6			NA	
	desk chairs	8			NA	
	computer	6			220	
	Laser printer	1			500	
	Drawer unit under the desk (with extending shelf)+ 1 wide drawer below desk	6			NA	
	shelves for folder storage next to desks	much as possible			NA	
	plate reader+computer	1	58x39x22			needs computer next to it, preferably on top shelf
	array scanner+computer	1	34x44x20			needs computer next to it, preferably next to it
	Chemical Hood	1			500	
	closet under hood	1				
	bench on one side of the hood (RNA station)	1				
	Power inlets 8 per bench	8				
	Lower (75) bench on other side of hood (HPLC station)	1				
		1	34x44x118			needs computer next to it, preferably on top shelf. Also need to leave bench room next to it for materials/small equipment.
	HPLC+computer					
	large wide drawers unit under HPLC bench*	1				*This bench does not require room for legs under the bench as most work is done while standing.
	Power inlets HPLC	10				
	Communication points for HPLC + computers	6				
	sink (metal)	2				
	drying unit above sink	2				See Limor Landsman (Medicine 307)
	Bench DNA station (50 cm deep)	1				See Limor Landsman (Medicine 307)
	Power inlets 8 per bench	8				
	Microcentrifuge eppendorf 5430R		38 x 64 x 30		250	**or smaller by LabNet (Yardenbiotech); Oren Kobiler (Medicine 835)
	Bench + Western station	1			100-500	
	Power inlets 8 per bench	8			NA	
	2 door refrigerator 4C	1	139x86x202		300	
	STORAGE SHELVES/DRAWERS/CLOSETS chemicals and lab ware	much as possible				
	PCR				1000	
	qPCR				1000	
	GENERAL MISC: Hot plate stirrer, end-to-end shaker, tube heat blocks, water bath, vortex, vortefuge, microfuge, power supply				100-1000	

59

107