

## Med YSP 2023 Module 3: Pharmacology & Toxicology

Name: \_\_\_\_\_

Monday, July 24, 2023 Drugs and the Body		Tuesday, July 25, 2023 I Can NAT Believe It!		Wednesday, July 26, 2023 Lab Techniques in PharmTox		Thursday, July 27, 2023 Toxicology		Friday, July 28, 2023 Game Show	
Time	Activity	Time	Activity	Time	Activity	Time	Activity	Time	Activity
8:00 - 8:45	Check-in David Naylor lobby of Medical Sciences Building (aka Stone Lobby)	8:00 - 8:45	Attendance in MSB, David Naylor lobby of Medical Sciences Building (aka Stone Lobby)	8:00 - 8:45	Attendance in Lecture room	8:00 - 8:45	Attendance in MSB, David Naylor lobby of Medical Sciences Building (aka Stone Lobby)	8:00 - 8:45	Attendance in MSB, David Naylor lobby of Medical Sciences Building (aka Stone Lobby)
8:15 - 8:45	Rise & Shine Lara	8:15 - 8:45	Rise & Shine Will & Caitlin	8:15 - 8:45	Rise & Shine Lara & Eva	8:15 - 8:45	Rise & Shine Michael & Elina	8:15 - 8:40	Rise & Shine Eva & Emily
8:45 - 9:00	Meet in Lecture room MSB 3153	8:55 - 9:00	Proceed to MSB lab rooms	Lunch will start late today		8:55 - 9:00	Proceed to MSB lab rooms	Early Start	
9:00 - 9:15	Welcome and Land Acknowledgment <i>Dr. Leonardo (Lenny) Salmena</i> Associate Professor, Teaching Stream, Dept. of Pharmacology, UofT	9:00 - 9:15	Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part B: Inoculate new culture	9:00 - 10:00	Meet in MSB 2170 Small Molecules Generate Big Signals: Introduction To VEGF Signalling In Cancer (Introduce ELISA technique, 10 min) <i>Dr. Leonardo Salmena, Department of Pharmacology and Toxicology, UofT</i>	9:00 - 12:00	Lab #7: Cell Cytotoxicity Part A1, DNA extraction	8:40 - 8:45	Proceed to MSB lab rooms
	Land Acknowledgment <i>Esther Lim</i>	9:15 - 11:45	Lab #4: Genotyping of SNPs in the NAT2 gene Part A-B: DNA isolation, and Part C: Setup PCR reaction	10:00 - 10:05	Transfer to lab rooms	During Incubations	Lab #6: Microscopy Workshop	8:45 - 11:00	Lab #7: Cell Cytotoxicity Part A2: Run gel and analyze
	How to Maximize Your Experience <i>Artur Jakubowski, Program Coordinator</i>		10:05 - 10:30	Lab #5: ELISA Part A: Washing plate technique	During Incubations		Lab #7: Cell Cytotoxicity How to use a hemocytometer	While gel is running	Lab #1: How to measure an in vivo NAT2 acetylator phenotype Part D: Ratio of urinary metabolites Lab #4: Genotyping of SNPs in the NAT2 gene Part H: Compare NAT2 Genotype with caffeine metabolism NAT2 Phenotype
9:15 - 10:10	Stay in lecture room Introduction to Pharmacology: A Pharmers Guide to Understanding Drugs <i>Dr. Leonardo Salmena</i>	11:45 - 11:55	Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part C: Induce protein expression	10:30 - 10:40	Buffer	11:55 - 12:00	Lab cleanup + Checklist		10:30 - 10:35
10:10 - 10:15	Q&A	11:55 - 12:00	Lab cleanup + Checklist	10:40 AM	Part B: Start at 10:40 AM sharp!			11:00 - 11:15	Rotation Determination and Move to Respective Rooms
10:05 - 10:20	Lab #1: How to measure an in vivo NAT2 acetylator phenotype Part A: Caffeine intake inside lecture room			10:40 - 12:25	Lab #5: ELISA Part B: Setup Experiment	Med YSP Photos medysp.pixieset.com Password: Medysp2023 Deadline to download photos Fri. Aug. 18, 2023		Attend one of the following sessions as determined by you and your Instructor	
10:20 - 10:30	Meet Instructors & Transfer to lab rooms <i>Artur Jakubowski</i> In your lab room			12:25 - 12:30	Lab cleanup + Checklist			11:15 - 12:00	University Admissions, MSB 3153 <i>Jonathan Blaize</i> or
10:30 - 10:45	Meet and Greet (Attendance, Ice breakers)							11:15 - 12:00	Anatomy Museum, MSB 2278 NO PHONE RULE Led by Instructors
10:45 - 11:05	Lab Safety (Fire, Medical, General Lab Safety, + lab coats)								
11:05 - 11:55	Lab #2: Pipetting and Pre-Priming								
11:55 - 12:00	Lab cleanup + Checklist								

12 - 1 PM	Lunch	12 - 1 PM	Lunch	12:30 - 1:30	Lunch	12 - 1 PM	Lunch	12 - 1 PM	Lunch
12:55 - 1:00	Proceed to lecture room MSB 2170 Meet in MSB 2170	12:55 - 1:00	Proceed to lecture room MSB 2170 Meet in MSB 2170	1:25 - 1:30	Proceed to lab rooms	12:55 - 1:00	Proceed to lecture room MSB 3153 Meet in MSB 3153	1:00 - 1:10	Meet in your lab room
1 - 1:55	Drug Use - An Examination of Substance Use Disorder <i>Dr. Michelle Arnot, Assistant Professor, Dep. of Pharmacology and Toxicology</i>	1 - 2 PM	Immunopharmacology: how to use your own cells as drugs <i>Dr. Landon Edgar, Assistant Professor, Dep. of Pharmacology and Toxicology</i>	1:30 - 4 PM	Lab #5: ELISA Part C: Continue	1 - 2 PM	Introduction to Toxicology <i>Dr. Cindy Woodland, Professor, Dept. of Pharmacology and Toxicology, UofT</i>	1:10 - 1:40	Surveys (Lab rooms) <a href="http://bit.ly/YSPP23-survey-pharmtox">bit.ly/YSPP23-survey-pharmtox</a> Wrap up (pick up belongings and certificates)
	1:55 - 2:00		Q&A		1:30 - 4 PM		Lab #5: ELISA Part D: Excel for Scientists	1:40 - 1:50	Transfer to lecture room MSB 3153
2 - 2:10	Transfer to lab rooms	1:55 - 2:00	Q&A	4:30 - 4:35	Lab cleanup + Checklist	2:00 - 2:15	Transfer to lab rooms	1:55 - 3:20	Career Speakers
2:10 - 4:00	Lab #1: How to measure an in vivo NAT2 acetylator phenotype Part B: Urine Collection Part C1: Extract Metabolites	2 - 2:10	Transfer to lab rooms	4:35 - 4:40	Move to lecture room MSB 3153	2:15 - 3:45	Lab #4: Genotyping of SNPs in the NAT2 gene Part E: Setup restriction enzyme digest Part F: Run gel	3:20 - 3:30	Buffer and Break
4:00 - 4:55	Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part A: Start O/N culture	2:10 - 4:00	Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part D: Protein extraction	4:40 - 5:00	Game Show Trial run Led by Lara (Student Experience Guru)		While gel is running Lab #7: Cell Cytotoxicity Part B: Trypan Blue exclusion	3:30 - 4:30	Land Acknowledgment <i>Eva Di Nallo</i> Game Show
4:55 - 5:00	Lab cleanup + Checklist	4:00 - 4:55	Lab #3: Recombinant Human NAT1 and Measurement of its Enzyme Activity Part E: Enzyme assay, and Part F: Analyse results			3:45 - 4:55	Lab #4: Genotyping of SNPs in the NAT2 gene Part G: Determine NAT2 Genotype	4:30 - 4:35	Closing Remarks <i>Dr. Leonardo Salmena &amp; Artur Jakubowski</i>
Reminders for Students For troubleshooting WIFI, visit <a href="http://bit.ly/ysp-wifi">bit.ly/ysp-wifi</a>		4:35 - 4:55	Lab #4: Genotyping of SNPs in the NAT2 gene Part D: Store samples			4:55 - 5:00	Lab cleanup + Checklist	4:35 - 5:00	Reception & Refreshments MSB David Naylor Lobby
Reminders for Students Wear closed toe shoes and long pants because you are performing wet labs.		4:55 - 5:00	Lab cleanup + Checklist						