

Week 1									
MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY	
30-Apr		01-May		02-May		03-May		04-May	
9:00--9:30	Welcome & Introductions	9:00--9:30	Welcome + Review of Last Day	9:00--9:30	Welcome + Review of Last Day	9:00--9:30	Welcome + Review of Last Day	9:00--9:30	Welcome + Review of Last Day
9:30--10:30	Biosafety (EHS)	9:30--10:30	Plasmid backbone digestion for linearization (2-3h)	9:30--10:30	Lab Meeting -- transformation/transfection /transduction	9:30--10:30	Workshop: scientific communication -- how to present your results	9:30--11:30	Microscopy Workshop
10:30--11:30	Lab Meeting: The importance of KCC2 gene in disease pathologies	10:30--11:00	Workshop: resources for researching scholarly communications	10:30--12:00	Validating your plasmid: colony PCR	10:30--12:00	Transfection of plasmid into cell lines		
11:30--12:30	Literature Search --KCC2 & How we can study it	11:00--12:00	Journal Club: strategies for gel extraction, ligation	12:00--1:00	LUNCH	12:00--1:00	LUNCH	11:30--12:00	Immunofluorescence of Transfected Cells
12:30--1:30	LUNCH	12:00--1:00	LUNCH	1:00--1:30	Image Gels			12:00--1:00	LUNCH
1:30--2:00	Lab Discussion: Cutting & Pasting in Molecular Biology	1:00--2:00	Gel Extraction + Ligation	1:30--2:30	Group work -- different strategies to transfect cells	1:00--3:00	Group Work: How to establish a rough protocol Methods section write-up Methods section write-up	1:00-3:30	Reaching into our experimental toolbox: Studying the protein localization of KCC2 (Experiment Planning Activity)
2:00--3:30	Self-exploration of plasmid design/cloning tools online	2:00--3:00	Bacterial Transformation	2:30--3:30	Presentation of different strategies + group discussion				
3:30--4:30	Mini-prep of plasmid backbone	3:00--4:30	Group work: how to confirm your cloning went well	3:30--4:00	Introduction to cell culture				
4:30--5:00	Debrief -	4:30--5:00	Lab discussion of developed mini-protocols	4:00--5:00	Passage cells for transfection experiment		Debrief	3:30--5:00	Debrief
By the end of week one, students will have designed, cloned and verified their plasmid, and have tested it functionally through transfection. This will also give them an opportunity to refine transfection protocols for study next week.									

Week									
MONDAY		TUESDAY		WEDNESDAY		THURSDAY		FRIDAY	
07-May		08-May		09-May		10-May		11-May	
9:00--9:30	Welcome + Review of Last Week	9:00--9:30	Welcome + Review of Last Day	9:00--9:30	Welcome + Review of Last Day	9:00--9:30	Welcome + Review of Last Day	9:00--11:00	Workshop: Startups/patents
9:30--10:30	Workshop: Research Ethics and In Vivo Modeling	9:30-12:00	Western Blot	9:30--11:00	Transfection of cells with treatments based on experimental plan	9:30--10:00	Look at Transfected Cells	11:00--12:00	Microscopy + imaging from last day
10:30--11:30				Group Work: Animal Models for KCC2?	11:00--12:00	"Mini lab meeting" of results	10:00--11:30	Immunostaining	12:00--1:00
11:30--12:00	Group Discussion	12:00--1:00	LUNCH	12:00--1:00	LUNCH	11:30--12:00	Immunostaining	1:00--2:00	Mini-stats workshop
12:00--1:00	LUNCH	1:00--3:00	Western Blot	1:00--3:00	Literature Search: what do our results tell us? Troubleshoot? Clinical implications? Literature support?	12:00--1:00	LUNCH	2:00--5:00	Groups prepare final presentations, including rationale for study, final results, discussion (10 mins/group)
1:00--1:30	Journal Club: Localization of KCC2 & importance in Health & Disease;			3:00--5:00	Results and Figure design Cont'd	1:00--2:00	Workshop: Career centre -- CVs, interviews, etc.		
1:30--3:00	Group Work: Strategies to assess/modulate localization of KCC2	3:00--4:30	Image Western Blot			2:00--2:30	Immunostaining		
3:00--4:00	Protein Quantification for Western Blot	4:30--5:00	Preparation for Next Day			2:30--3:30	Prediction based on last week's results		
4:00--5:00	Debrief on Protein Quantification + Goals for Tomorrow			3:30--5:00	Immunostaining				
By the end of week two students will have analyzed data, problem-solved, written up results and communicated them in small-group format to the entire lab as well as explored topics such as ethics, career preparation, and entrepreneurship									