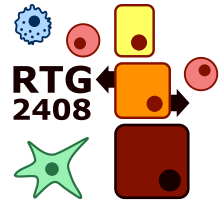




FACULTY OF
MEDICINE



RTG 2408 Workshop
May 7th 2019

Quantitative real time PCR and gene expression analysis

Program

- 09:00 Introduction & distribution of material**
- 09:10 Lecture: Introduction to PCR and qPCR**
- PCR vs. qPCR
 - How does a qPCR work?
 - Different detection chemistries, dyes, probes
 - Applications and scope
- 10:30 Practical demonstration and exercise**
- Considerations for primer design
 - Practical exercise: primer design
- 11:00 Setting up a qRT-PCR**
- RNA quality and reverse transcription
 - Reference genes
 - Primer optimization – efficiency test
 - Practical exercise: qRT-PCR
- 12:30 Lunch break**
- 13:30 Overview: PCR results from practical exercise**
- 14:00 Lecture: Quantification theory**
- Interpretation of the standard curves
 - Quantification methods and equations
 - Normalization to reference genes
 - Statistical considerations
 - Gene expression calculation examples
- 15:30 Practical exercise: quantification calculations**
- 16:30 Problems and trouble shooting**

Please note

- workshop will take place in building 39, start in seminar room (440/441) at 9:00
- bring a notebook for calculations (one notebook for 3 – 4 participants; Microsoft Excel and internet connection required)
- bring a lab coat
- in advance: consider a couple of genes you want to study in the future