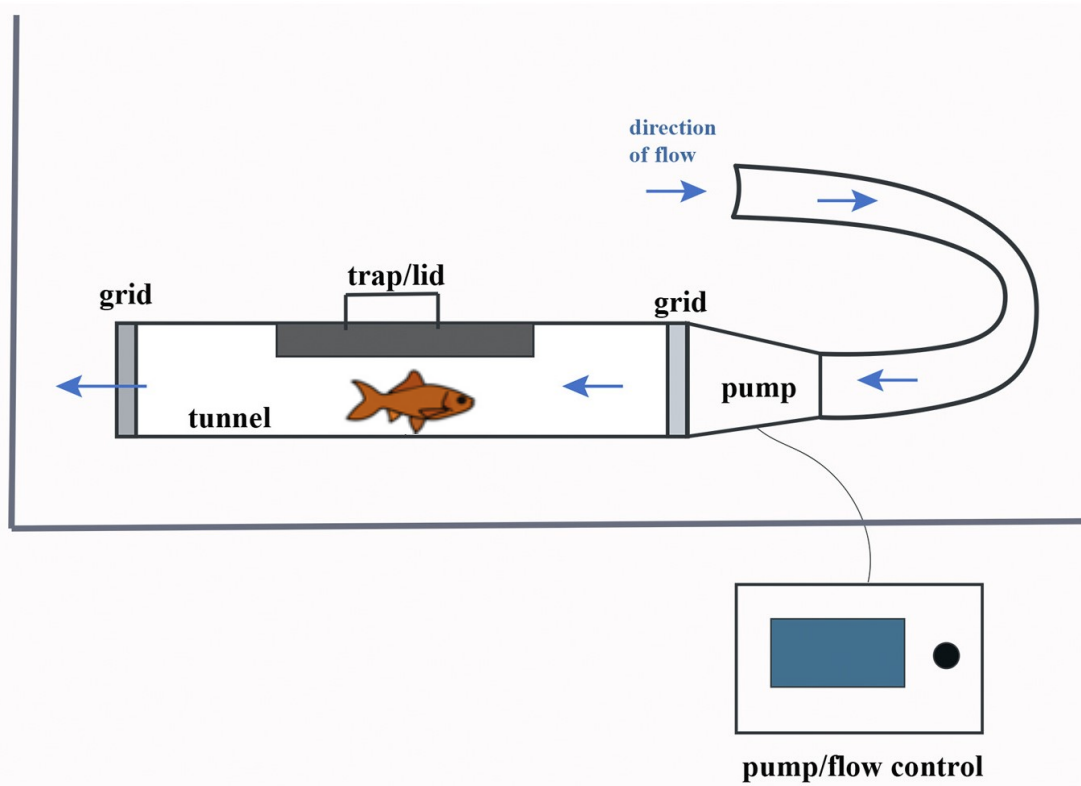
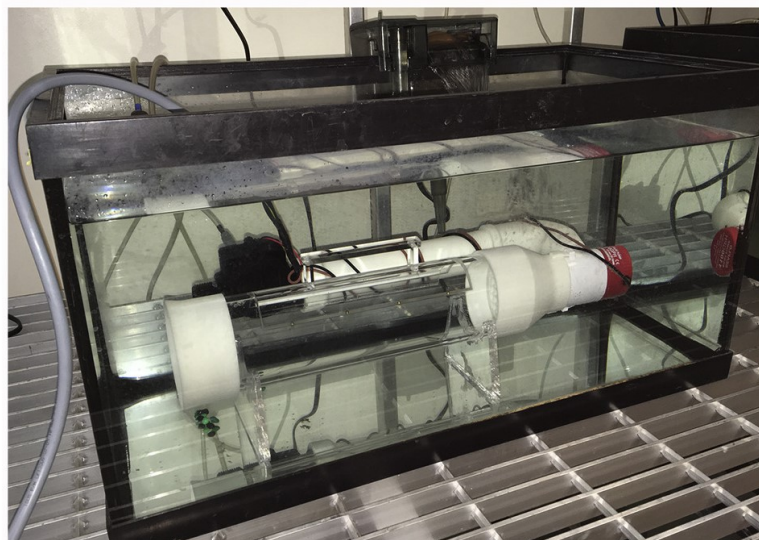


# 读书报告



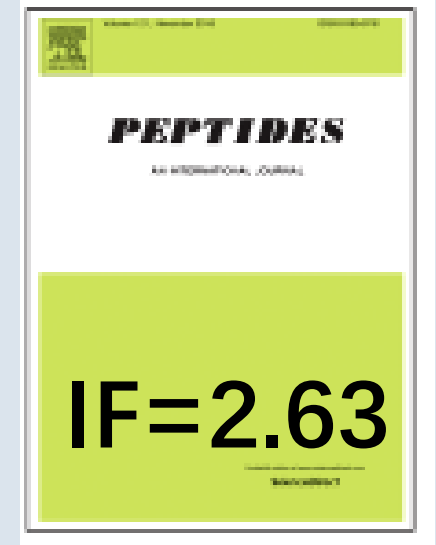
汇报人 覃初阳 汇报时间 2019.11.17



# Peptides

Available online 1 November 2019, 170182

In Press, Journal Pre-proof 



**Effects of short-term exercise on food intake and the expression of appetite-regulating factors in goldfish**



# CONTENTS

Part 01

研究背景

Part 03

结果与讨论

Part 02

实验思路

Part 04

内容总结与启发





# PART.0

研究背景

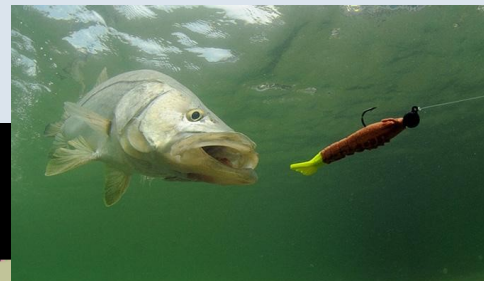




# 1、研究背景

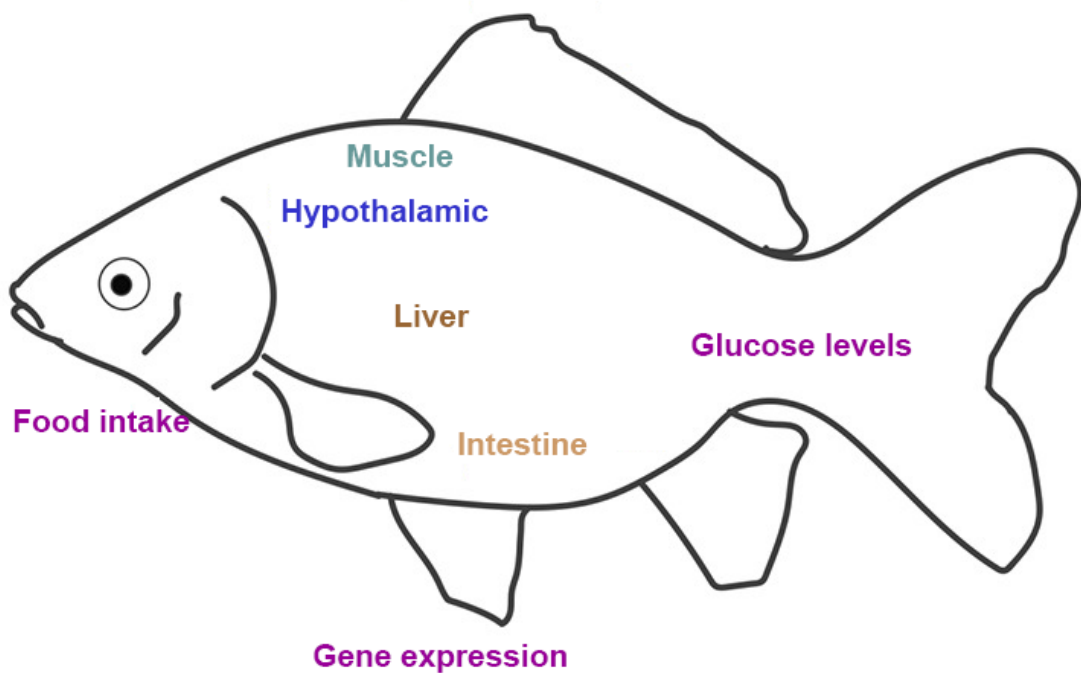
In fish, the regulation of food intake involves a number of hormones that are either appetite-stimulating (orexigenic) or appetite-inhibiting (anorexigenic).

- **Orexin** injections stimulate food intake and induce wakefulness thus increasing foraging behavior and locomotor activity.
- **CART** decreases food intake.
- **CRF** can reduce feeding in both mammals and fish, including goldfish.
- **leptin** injections decrease feeding and locomotor behaviors.
- **CCK、PYY、GLP-1** act as satiety factors. Decrease feeding.
- **IL-6** decreases daily food intake and body weight, suggesting a role in the regulation of feeding and energy balance.
- **BDNF** might acts as an anorexigenic factor in fish.
- In goldfish, **irisin** injections decrease feeding, increase locomotor activity. But-



# 1、研究背景

• 30 Mins sport • recover for 10 min • fed



Food intake	glucose levels	Gene expression	Hypothalamic										
			CART1	CART2	BDNF	IL6	orexin	irisin	CRF	leptin 1	leptin 2	NPY	
↓	—		↑	↑	↑	↑	—	—	—	—	—	—	
			Intestine										
			CCK	PYY	GLP-1	LPL	TRYPS						
			↑	↑	↑	—	—						
			Muscle										
			irisin	IL-6	LPL								
↑	↑	—											
Liver													
leptin 1	leptin 2	LPL	GLK	GCKR									
—	—	—	—	—									

# 1、研究背景

## Effects of short-term exercise on food intake and the expression of appetite-regulating factors in goldfish

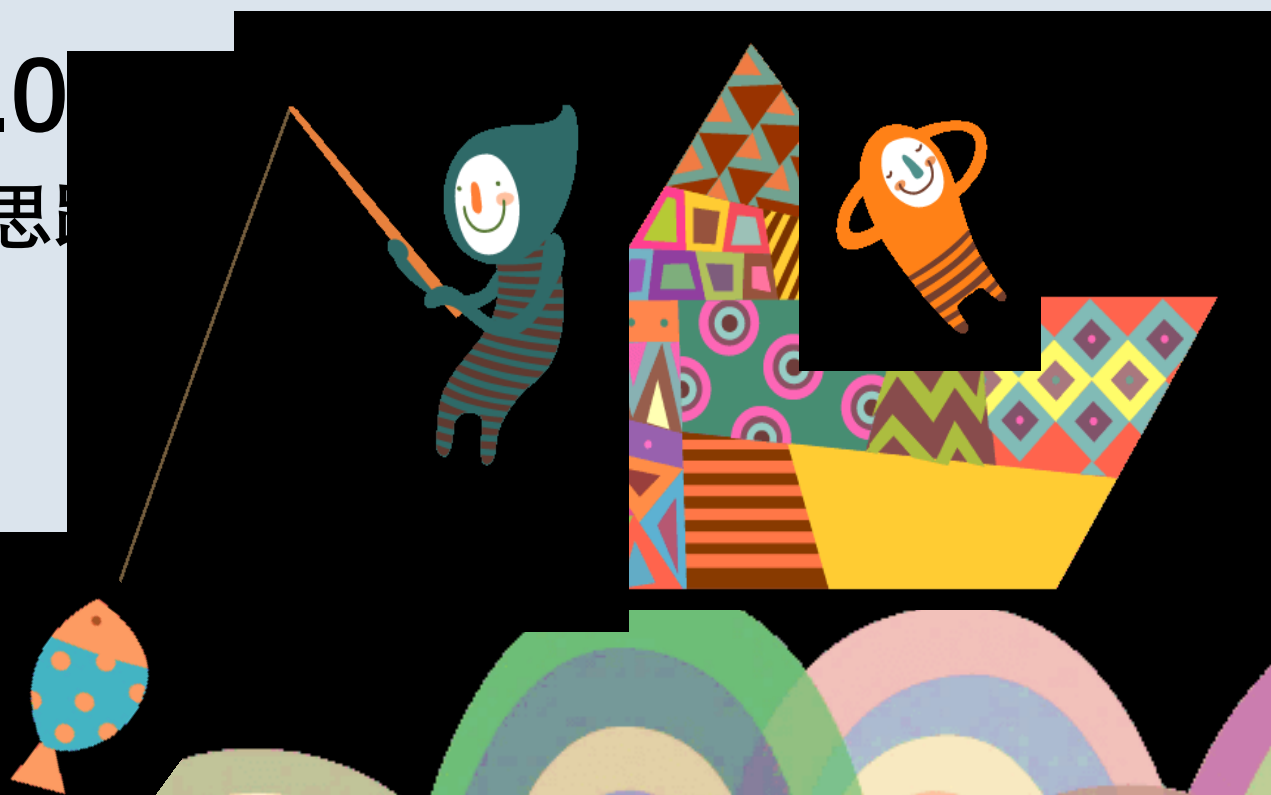
- 如何确定的“Short-term”.
- “appetite-regulating factors” 都有哪些？
- 运动强度如何确定？
- 实验如何设计？





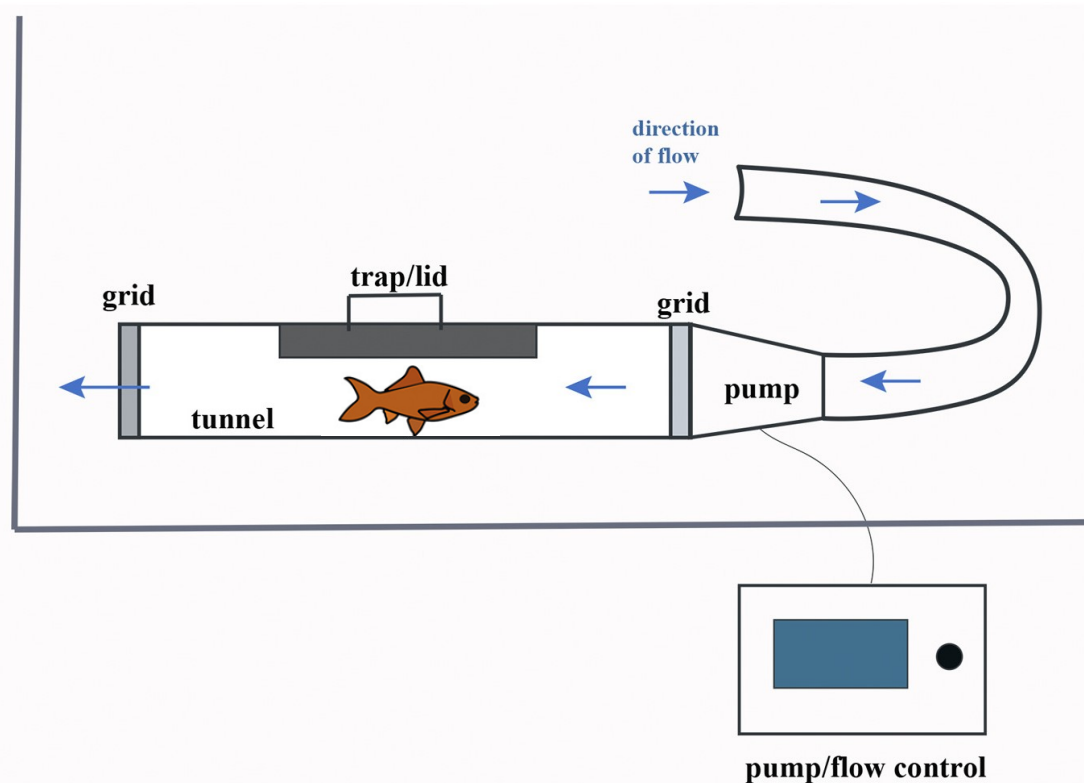
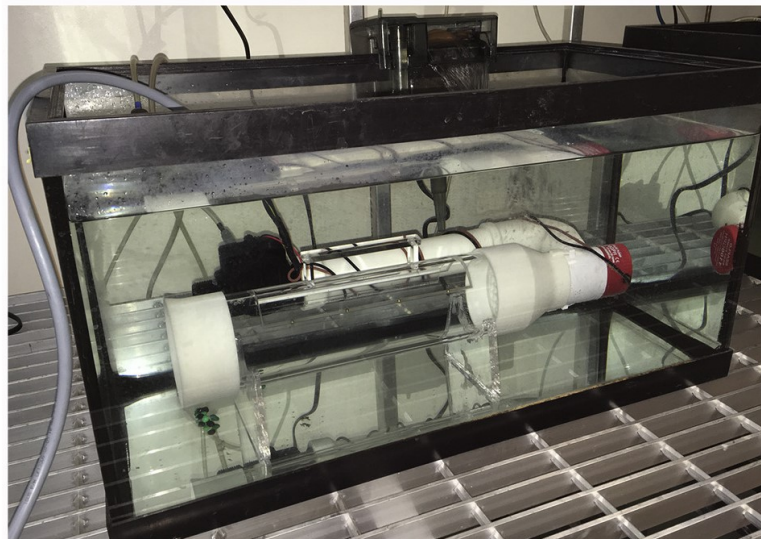
# PART.0

## 实验思路





## 2、实验思路

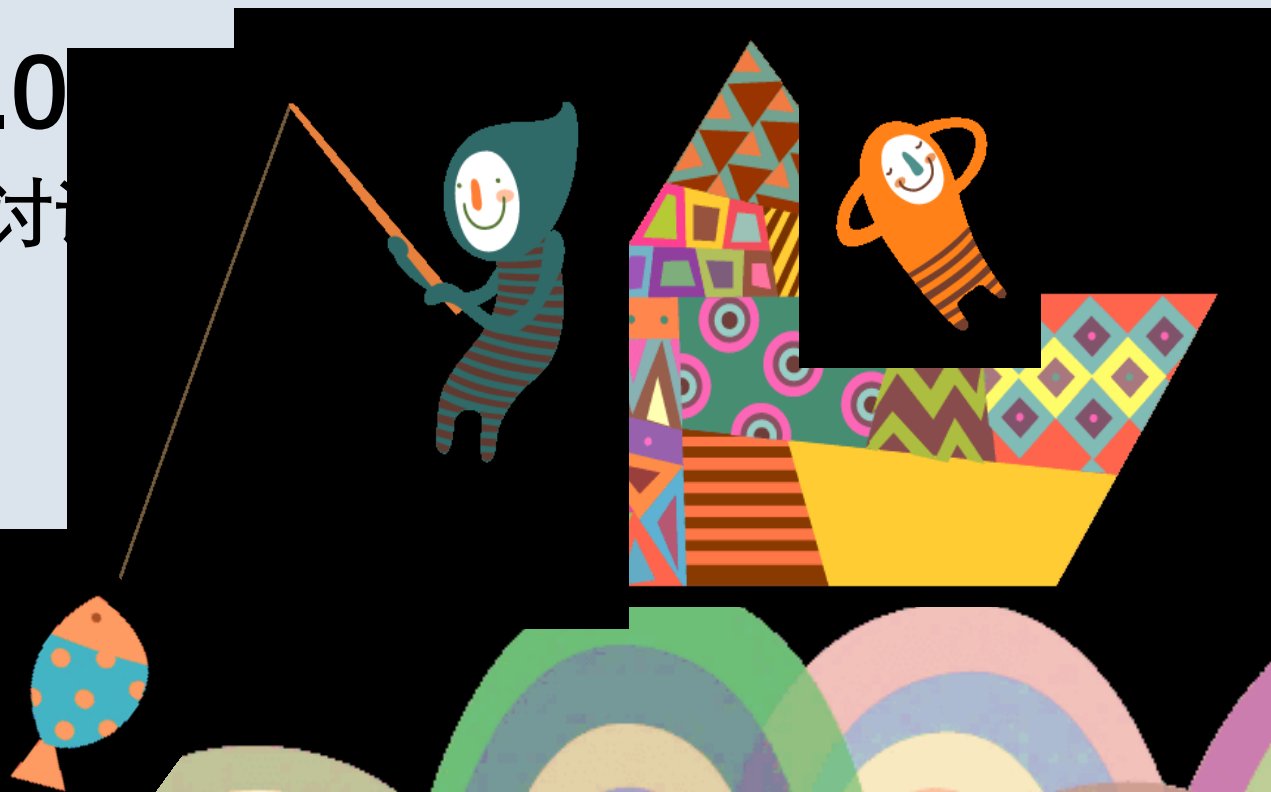


长32cm, **内径4.2cm** 鱼 $10.1 \pm 0.2$  cm 重量为 $11.6 \pm 0.5$  g, 容积 0.5L; 缸65L  
低强度运动 1L/s, 约等于2体长/秒; 高/中强度, 2 L/s, 3 BL/秒。  
运动30分钟。因为运动到40分钟的时候开始精疲力尽, 难以逆流游泳而被推向泳道壁。  
摄食: 运动30分钟后, 休息10分钟, 开始进食。停食: 鱼类停止**搜索**饲料。



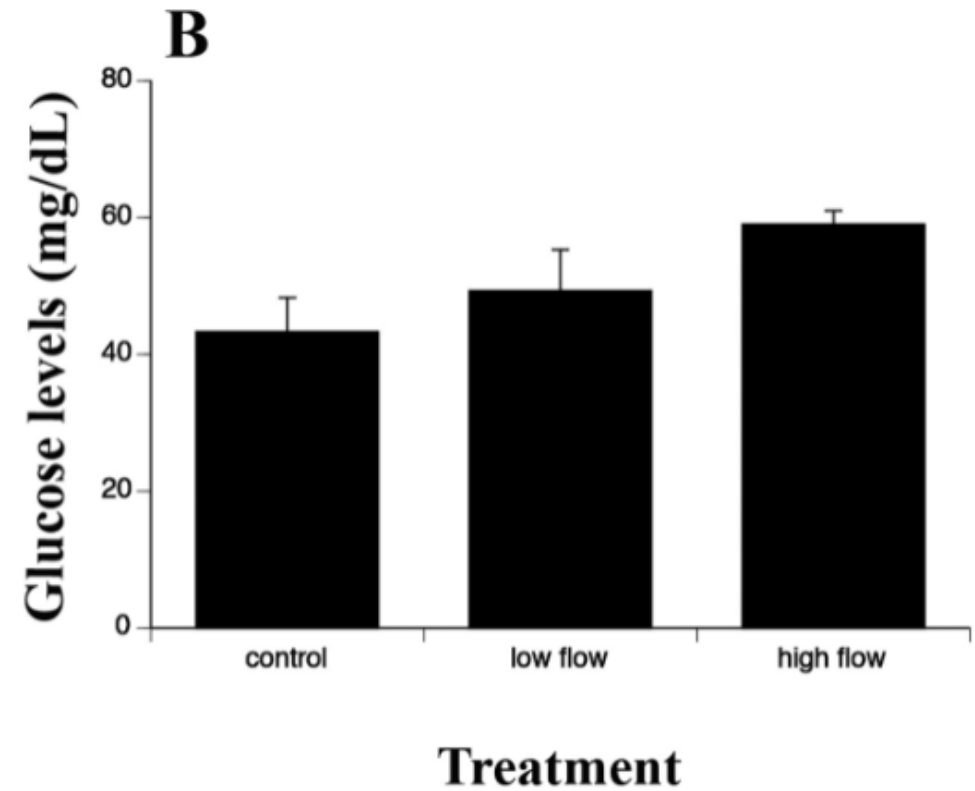
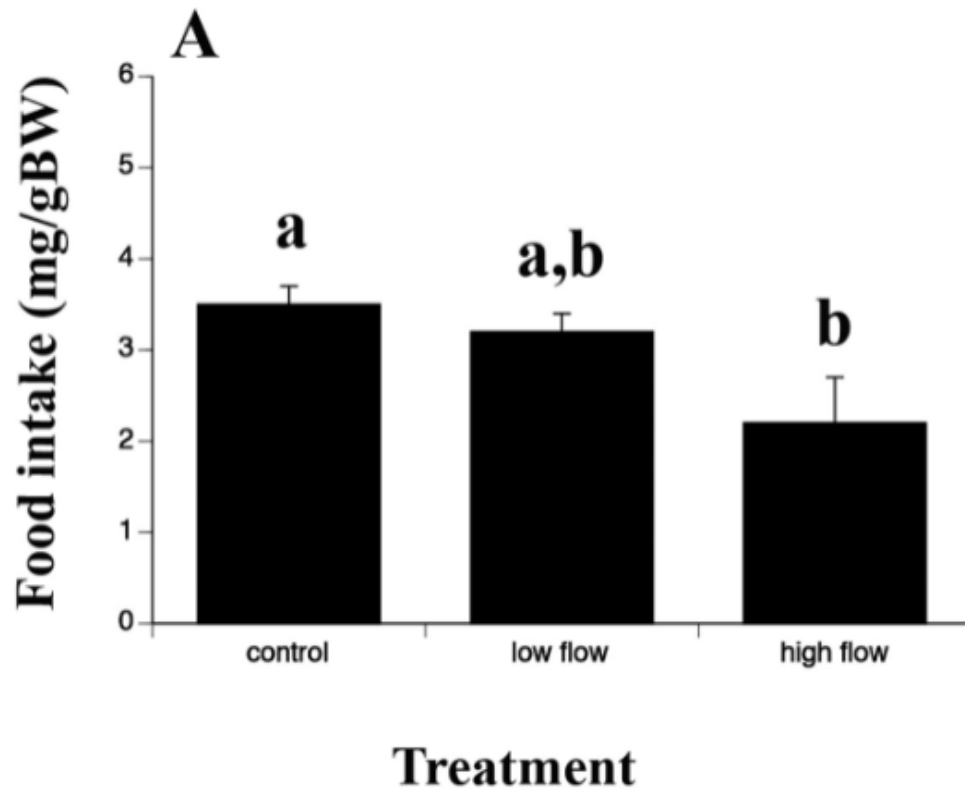
# PART.0

结果与讨论



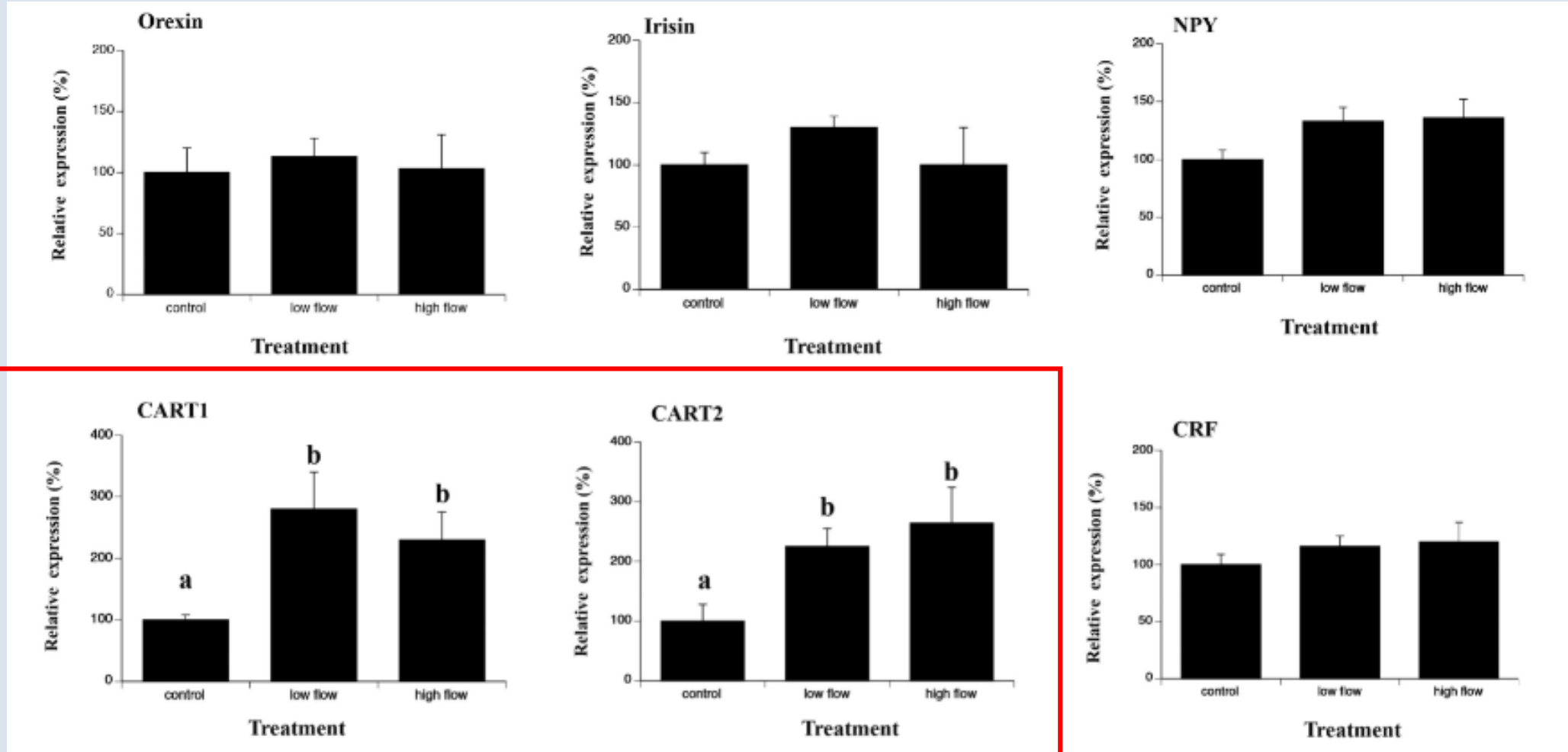


## 3.1 Effects of short-term exercise on food intake and blood glucose levels





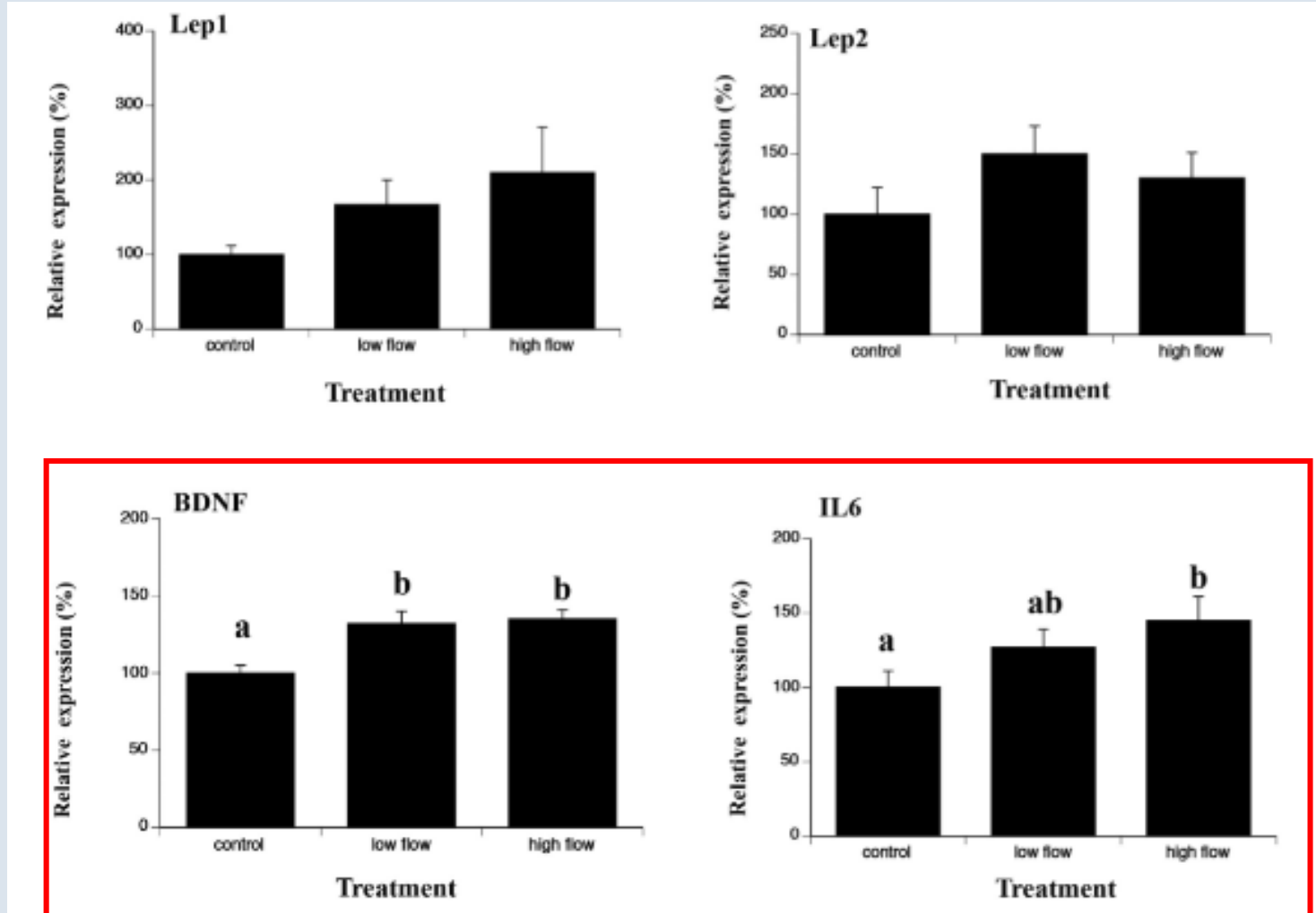
## 3.2 Effects of acute exercise on gene expression



hypothalamic



## 3.2 Effects of acute exercise on gene expression

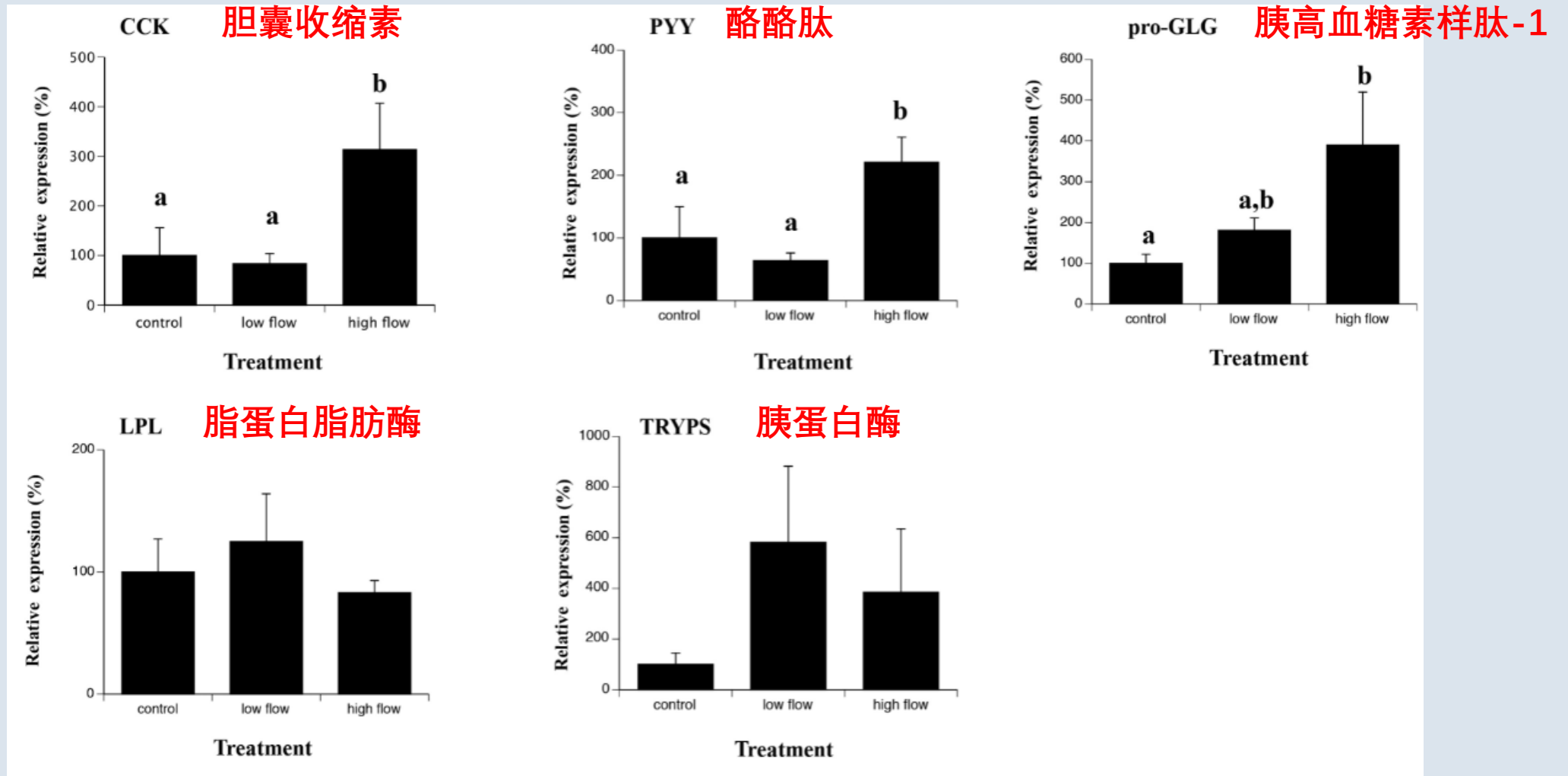


hypothalamic



## 3.2 Effects of acute exercise on gene expression

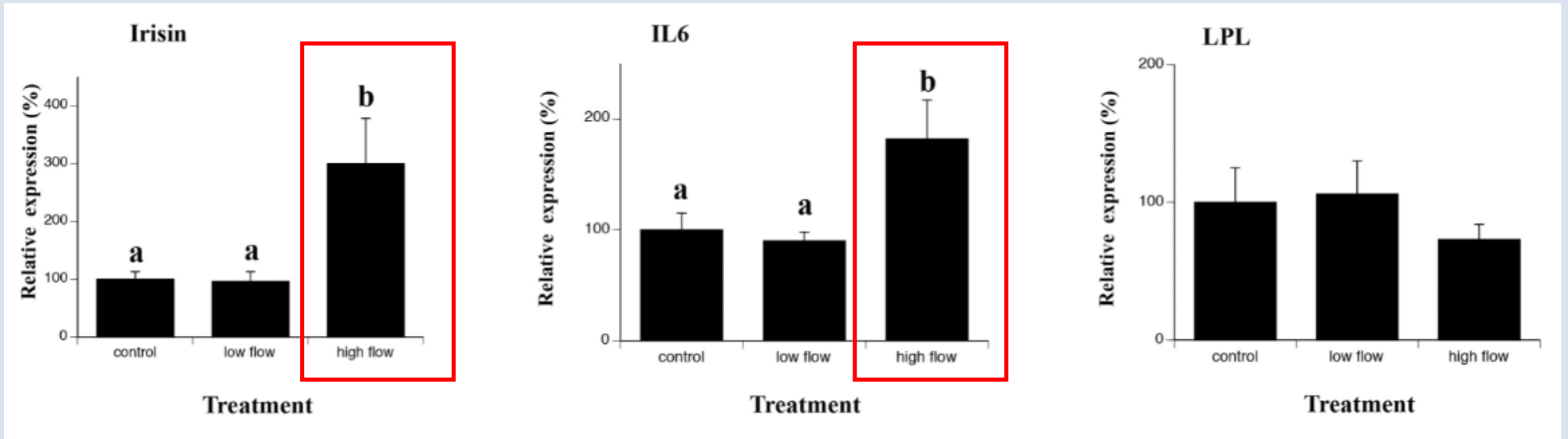
satiety  
factors



In the intestine



## 3.2 Effects of acute exercise on gene expression

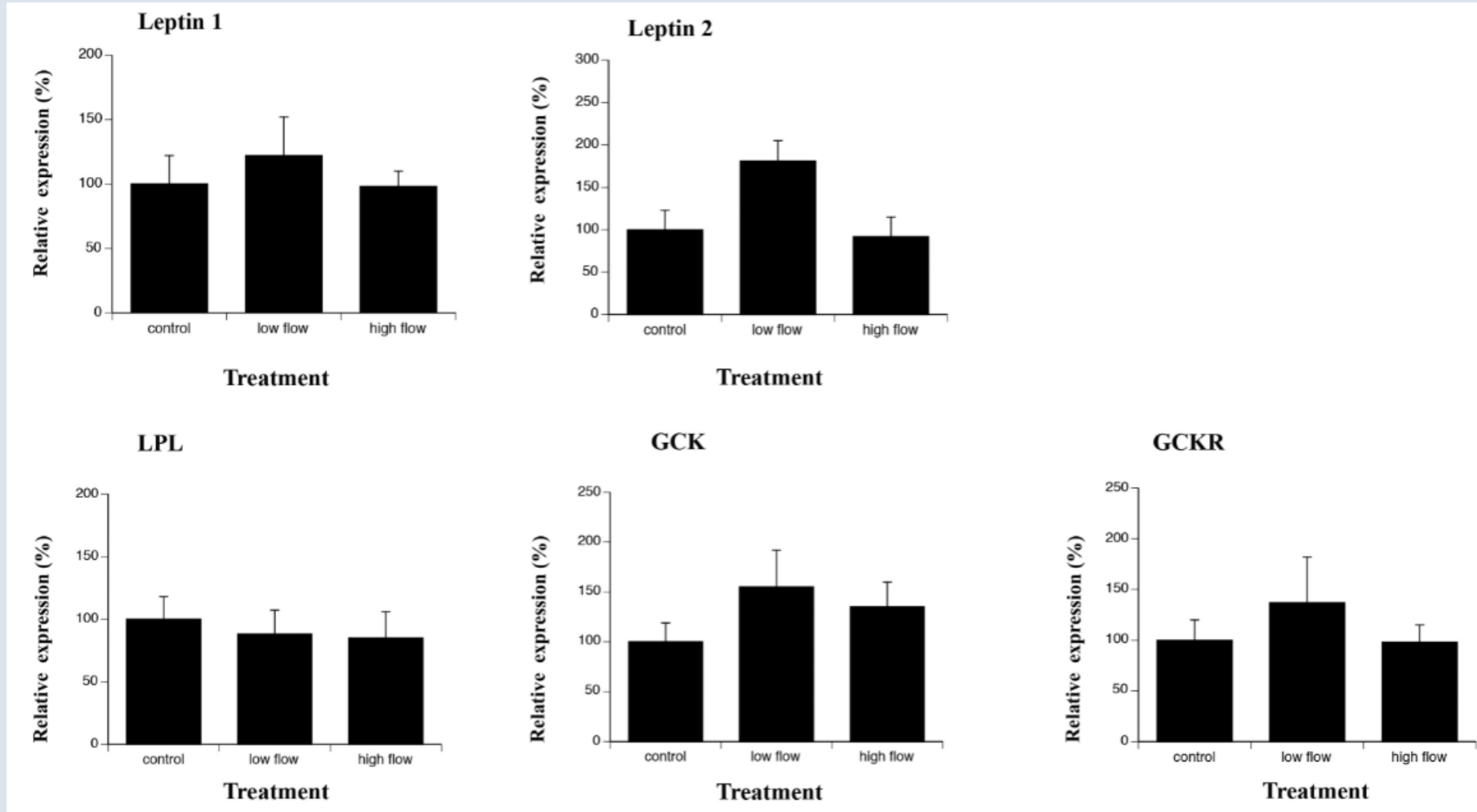


In muscle





## 3.2 Effects of acute exercise on gene expression



In liver



## PART.0

内容总结与启





## 4 内容总结与启发

这篇文章研究了运动对摄食相关基因的影响状况。

设置了初步的研究方法，用水流控制运动强度，设定运动时间，了解了鱼类运动的初步知识。

根据哺乳动物中，体育活动对进食和能量稳态的影响取决于运动强度和持续时间，还取决于训练状态，性别和体内脂肪的含量等因素，所以如何定义“运动”是一个有趣的话题。



## 4 文章分析

- ① 确定内容：研究运动对鱼摄食以及相关基因的影响
- ② 前言：
  1. 强调运动会影响食欲
  2. 食欲受到激素的影响，都有哪些激素可以影响食欲
  3. 为了完成本文检测了什么东西
- ③ 材料与方法；
- ④ 结果与讨论：
  1. 按照内容进行分组，按检测部位逐个讨论变化情况。
  2. 先提出自己的结论，在同类型中找到可以对比的内容进行讨论。
  3. 以辩证的思维去解释实验结果。

感谢聆听， 敬请各位老师、  
同学批评指正

