Sound of Science (理聲)

Newsletter of Science Society

April, 2012 二零一二年四月號

Obesity gene's role revealed in mice study

Researchers believe they have identified why a mutation in a particular gene can lead to obesity. Mouse experiments suggested the body's message to "stop eating" was blocked if the animals had the mutation (突變).

*The study, **published in Nature Medicine**, said the brain's response to appetite (促進) hormones was being disrupted. The Georgetown University Medical Center researchers hope their findings could lead to new ways to control weight. Many genes have been linked to obesity, one of them - brain-derived neurotrophic(神經營養的) factor gene - has been shown to play a role in putting on weight in animal and **some human studies**.*

However, scientists at the Georgetown University Medical Center said the explanation for this link was unknown.

Overeating

In studies on mice which had been genetically modified to have the mutation, the mice consumed up to 80% more food than normal.

After a meal, hormones such as Insulin (胰島素) and leptin (肥胖荷爾蒙) should tell the brain that the body is full and should stop eating. The researchers showed that in the mutated mice the message was not being passed on from the hormones in the blood to the correct part of the brain.

One of the researchers Prof Baoji Xu said: "If there is a problem with the BDNF gene, neurons can't talk to each other, and the leptin and insulin signals are ineffective, and appetite is not modified."

He said the discovery "may open up novel strategies to help the brain control body weight" such as finding a "drug that can stimulate BDNF expression".

Prof Sadaf Farooqi, who studies the relationship between genes and obesity at the University of Cambridge, told the BBC: "Genes have a surprisingly large role, it's often underestimated. Between 40 and 70% of the difference in weight between two individuals is due to genetics."

She said completely disrupting the brain-derived neurotrophic factor gene had been shown to lead to severe obesity. However, she cautioned that the study was "entirely in mice" and the mutation was "very rare" in people.

Hibernating bears' wounds heal without scars

Medical researchers and zoologists worked together to find that the bears' wounds healed with almost no scarring, and were infection-free.

The scientists hope, eventually, to find out exactly how the bears' bodies heal while their body temperature, heart rate and metabolism are reduced. This could aid studies of human wound-healing. The team has been tracking and monitoring black bears in Minnesota for 25 years

The findings, published in the journal Integrative Zoology, are of particular relevance to medical researchers hoping to improve slow-healing and infection-prone wounds in elderly, malnourished or diabetic patients.

科普講座

科普講座名稱	日期	時間	地點	講員
地球上的倖存者：馬蹄蟹	4月14日（六）	9:30 – 11:00 am	科學創意中心	單錦城教授（香港城市大學生物及化學系）
雲端服務平台下之開放式創新	4月21日（六）	3:30 – 4:30 pm	香港科學館演講廳	李榮彬教授（香港理工大學工業及系統工程學系講座教授、知識管理及創新研究中心總監）

Lunch Time Video Show: Apr 2012 地球歷險記
(12:20p.m.) @ Chem Lab Rm512

Date	Name of Program	Area
27/4 (Fri)	Solved: Written in blood 凶案大突破：血跡遺言(Part I)	Forensics Science 鑑證科學

深谷還珠結果

初級組 (F.1 - F.3)				
冠軍	謝銳浩 (3A)	麥梓鋒 (3A)	曾慶邦 (3A)	
亞軍	孔穎琳 (3A)	傅穎琛 (3B)	葉佩姍 (3B)	林浩珽 (3B)
季軍	林家樂 (1B)	王智灝 (1D)		

高級組 (F.4 - F.5)				
冠軍	陳惠媛 (4E)	鄭俊洛 (4E)	呂穎楠 (4E)	吳衍鋒 (4E)
亞軍	何家華 (4D)	何永賢 (4D)	林皓廉 (4D)	黃進鋒 (4D)
季軍	古樂維 (4E)	梁碩光 (4E)	李子桓 (4E)	麥皓鈿 (4E)

SCIENCE SOCIETY 2011-12
CHAIRPERSON: MAK SHUN KI 麥順淇 4E
COMMITTEE MEMBER:
LAU WAI NIM 劉威念 4A, LEE KA HANG 李嘉恒 4A, TANG PUI KEI 鄧珮琦 4A, LAM HO LIM 林皓廉 4D,WONG CHUN FUNG 黃進鋒 4D, CHAU IRIS 周雅詩 4E & CHIK CHUNG YIN 植頌然 4E

☹ → Let's Relax!! → ☺

Here's the previous answer for Sudoku:

1	6	7	8	4	5	9	2	3
3	5	9	1	2	7	8	6	4
8	4	2	6	9	3	7	1	5
6	1	8	9	5	4	3	7	2
7	9	4	3	8	2	1	5	6
5	2	3	7	6	1	4	8	9
4	7	1	2	3	6	5	9	8
9	3	6	5	7	8	2	4	1
2	8	5	4	1	9	6	3	7

5				9	7		8	
7		3	2				9	
						5	2	
		1	9					
			4		3			
					6	1		
	6	5						
	4				8	6		9
	7		3	6				4

Here's the Science Quiz (1/4 – 30/4)

Q1. Many genes have been linked to obesity, one of them is insulin. (T/F)
Q2. Insulin is should tell the brain that the body is full and should stop eating. (T/F)
Q3. Bears emerged in May. (T/F)
Q4. The radio-collar is a technology which helps bears to cure themselves. (T/F)
Q5. According to the passage, what is BDNF (full name) ?

_____

Previous Answers(1/3 – 31/3): SQ: 1.T 2.F 3.F 4.F 5.C

You can use the answer sheet on the right to answer the question. Collection box is put on the notice board of Science Society near the Staff Common Room (Rm102). The students who answer all correct will be given a special gift. Everyone can submit one answer sheet only. Thanks for your participation!

Name:_____
Class:_____(___)
1. _____ 4. _____
2. _____ 5. _____
3. _____
Hope you can find out the answers and know more about Science!