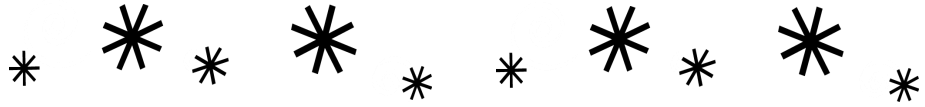
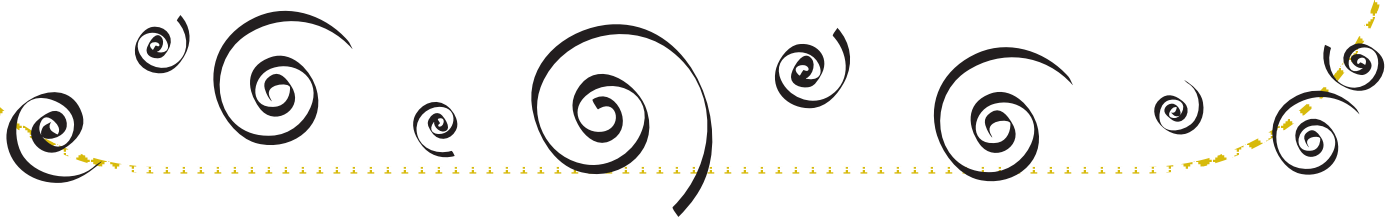




校園訊息



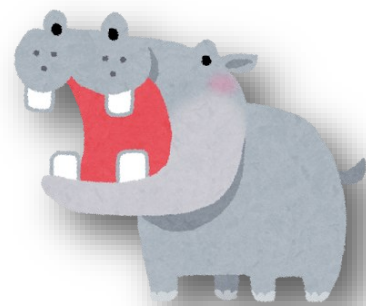
- 1、【圖書館】GIDEON 全球感染症與流行病學線上資料庫，歡迎試用！
試用期間：即日起至 2020/12/14，產品線上參考資訊及影片：
 - GIDEON Tutorials - <https://www.gideononline.com/tutorial/>
 - GIDEON Videos - <https://www.gideononline.com/video/>
 - GIDEON Testimonials - <https://www.gideononline.com/about/testimonials/>
- 2、【圖書館】 Grolier Online 資料庫，歡迎試用！
帳號密碼：Username: Pingtung、Password: pingtung
試用期間：2020 年 10 月 7 日至 2020 年 12 月 6 日
Grolier Online 資料庫中文簡介、操作手冊及影音教學網址：
中文簡介及操作手冊→ <https://concert.stpi.narl.org.tw/database/3>
影音教學→ <https://concert.stpi.narl.org.tw/database/3?section=video>
- 3、【研究發展處產學營運中心】《2020 智慧財產權系列課程》技術授權及人員兼職（新創事業）的利益衝突及其他法律議題，本活動訂於 109 年 10 月 28 日（星期三）中午 10 時 30 分至 12 時 30 分假傳統醫學大樓甲棟 2 樓演講廳舉行，報名網址：<https://portal.ym.edu.tw/umchi/activity/content.asp?actno=12763>。
- 4、【學務處職涯發展組】就業達人系列講座_10/29-醫學 x 法律-醫學系校友職涯分享。109 年 10 月 29 日（星期四）12 時 10 分至 13 時 40 分，地點：學務處大會議室（博雅中心二樓），報名網址：<https://portal.ym.edu.tw/umchi/activity/content.asp?actno=12760>。
- 5、【研究發展處計畫業務組】109 年度計畫申請經驗分享座談會，時間：109 年 11 月 3 日 10:00-12:10，地點：活動中心第一會議室。報名網址：<http://ymadm1.ym.edu.tw/activity/content.asp?actno=12780>。
- 5、【圖書館】跳脫教科書的立體動畫從基礎到實用主題「Primal Pictures 3D 互動式解剖學資料庫」。109 年 11 月 10 日（星期二）12 時至 20 分至 13 時，地點：圖書館 2 樓電腦教室，報名網址：<https://portal.ym.edu.tw/umchi/activity/content.asp?actno=12745>。



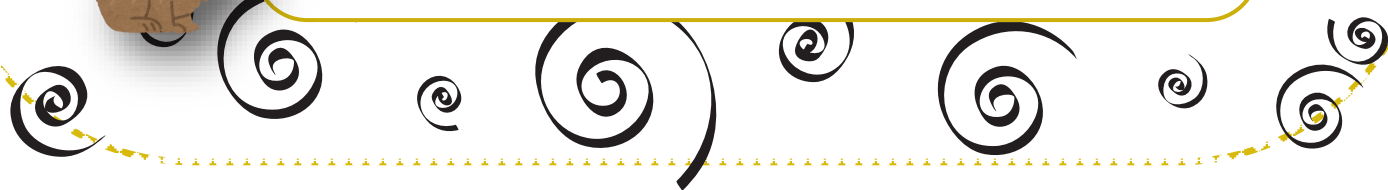
特別事項



- 1、陽研字第 1090022479 號：檢送吳健雄學術基金會 2021 第 14 屆「台灣傑出女科學家獎」、「台灣女科學家新秀獎」及「孟粹珠獎學金」等三獎項之遴選辦法各乙份，詳如說明，敬請轉知所屬查照。有關本獎公告及申請相關表格請至該基金會網站最新消息下載（https://www.wcs.org.tw/news_66.html）。
- 2、陽人字第 1090022501 號：重申兼任教師需符合「已有聘書，各學期實際任教滿 1 學分」之條件者，始得申請教師資格審定，各聘任單位於辦理兼任教師新聘與升等作業時，請自行確認查核，請查照。
- 3、陽研字第 1090022526 號：鑒於近日國內嚴重特殊傳染性肺炎疫情尚稱平緩，亦為維護公務正常運作及避免搭乘大眾運輸通勤之同仁增加群聚上下班感染風險，自 109 年 11 月 2 日起至嚴重特殊傳染性肺炎中央流行疫情指揮中心解散之日止，修正實施行政人員(職技人員、約用人員)擴大彈性上下班時間，請查照並配合辦理。
- 4、陽研字第 1090022526 號：科技部謹訂於 109 年 10 月 21 日、23 日分別於臺北及臺南舉辦該部「2030 跨世代年輕學者方案」說明會，詳如來函說明，歡迎踴躍參加，請查照轉知。
- 5、陽研字第 1090022288 號：「2020-2021 年總統科學獎」自即日起至明(110)年 3 月 3 日(星期三)止受理提名，詳如說明，敬請轉知所屬查照。
- 6、陽資字第 1090022232 號：自即日起，報廢資訊設備及物品由各單位財物保管人自行消除儲存媒體資料，並留存消除證據以資查驗，請查照。
- 7、陽教註字第 1090021911 號：有關 109 學年度第 1 學期設置輔系(所、學位學程)作業，詳如說明，請查照。
- 8、陽研字第 1090021456 號：科技部函轉行政院「第十一次全國科學技術會議」北、中、南、東分區預備會議已於 109 年 10 月 1 日起開放報名，敬請轉知所屬查照。相關會議訊息請逕至行政院「第十一次全國科學技術會議」官方網站（<https://11thnsc.tw/>）或科技部網站首頁報名參加。



請注意：109/10/30(五)生藥所招生口試，咖啡廳整日不開放喔。



師生榮譽榜

恭賀!!

本院生物藥學研究所金翠庭老師研究成果刊登於國際知名期刊 Science Advances
【科學前緣】。

金翠庭助理教授與生化所許翹麟教授研究團隊合作，發現組蛋白 H4 會於粒線體中影響其活性，並進一步調控動物的壽命，研究論文近日於 Science Advances 線上出版。

論文連結如下：

<https://advances.sciencemag.org/content/6/43/eaaz4452>

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SHARE RESEARCH ARTICLE ORGANISMAL BIOLOGY

HSB-1/HSF-1 pathway modulates histone H4 in mitochondria to control mtDNA transcription and longevity

Surojit Sural^{1,*}, Chung-Yi Liang², Feng-Yung Wang³, Tsui-Ting Ching^{4,†} and Ao-Lin Hsu^{1,2,3,5,†}

+ See all authors and affiliations

Science Advances 21 Oct 2020:
Vol. 6, no. 43, eaaz4452
DOI: 10.1126/sciadv.aaz4452



Science
Advances

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ORGANISMAL BIOLOGY

HSB-1/HSF-1 pathway modulates histone H4 in mitochondria to control mtDNA transcription and longevity

Surojit Sural^{1,*}, Chung-Yi Liang², Feng-Yung Wang³, Tsui-Ting Ching^{4,†}, Ao-Lin Hsu^{1,2,3,5,†}

Heat shock factor-1 (HSF-1) is a master regulator of stress responses across taxa. Overexpression of HSF-1 or genetic ablation of its conserved negative regulator, heat shock factor binding protein 1 (HSB-1), results in robust life-span extension in *Caenorhabditis elegans*. Here, we found that increased HSF-1 activity elevates histone H4 levels in somatic tissues during development, while knockdown of H4 completely suppresses HSF-1-mediated longevity. Moreover, overexpression of H4 is sufficient to extend life span. Ablation of HSB-1 induces an H4-dependent increase in mitochondrial nucleosome protection of both nuclear chromatin and mitochondrial DNA (mtDNA), which consequently results in reduced transcription of mtDNA-encoded complex IV genes, decreased respiratory capacity, and a mitochondrial unfolded protein response-dependent life-span extension. Collectively, our findings reveal a previously unknown role of HSB-1/HSF-1 signaling in modulation of mitochondrial function via mediating histone H4-dependent regulation of mtDNA gene expression and concomitantly acting as a determinant of organismal longevity.

INTRODUCTION

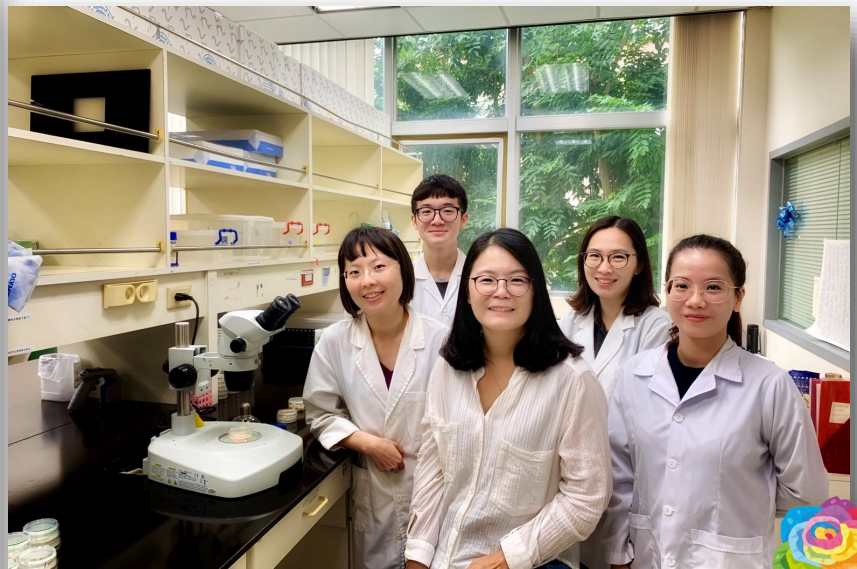
The rate of aging in multicellular organisms is determined by several evolutionarily conserved cellular and metabolic processes (1,2). Some recent studies have identified interconnections among these pathways in the context of longevity regulation (3–6), but the hierarchy between these hallmarks of aging at the systemic level remains less understood. Maintenance of protein homeostasis constitutes one such hallmark that undergoes impairment during normal aging and in numerous age-associated diseases (7). Misregulation in the function of chaperone complexes results in elevated misfolding and aggregation of proteins with age that is further exacerbated by metabolic and environmental stress. A major component of the protein homeostasis network in eukaryotes is the evolutionarily conserved heat shock response (HSR) pathway. HSR involves activation of members of the heat shock factor (HSF) family in response to a variety of environmental stresses such as heat, oxidative damage, proteotoxic insults, and pathogenic infection (8). While mammals have four distinct HSFs (HSF1 to HSF4), invertebrates such as *Caenorhabditis elegans*, *Drosophila*, and yeast have only one ortholog of HSF1. In the presence of stress stimuli, HSF1 binds to its target elements in the genome to induce the transcription of proteases and heat shock proteins (HSPs) (9). HSF1 also functions as a molecular chaperone to assist in the folding of nascent polypeptides and to prevent the toxic aggregation of misfolded proteins, thus attenuating the loss of protein homeostasis induced during stress conditions.

HSF1 has also been shown to regulate longevity of animals in non-stressed physiological conditions. In the nematode worm *C. elegans*, overexpression of *hsf-1* extends life span and delays the onset of age-related neurodegenerative diseases, while inhibition of HSF-1 activity accelerates aging (9,11). In mammalian organisms, HSF1 activation has been shown to promote longevity in a neurodegenerative mouse model (12), while knockdown of HSF1 markedly shortens life span in a murine model of prion disease (13). Initial studies suggested that life-span extension associated with HSF-1 activation is at least partially due to increased expression of small HSPs (9). A recent study showed that overexpression of a truncated form of HSF-1 extended life span in worms independent of its ability to mount stress-induced activation of HSPs (10). Incidentally, prolonged life span due to transgenic HSF1 activation in a neurodegenerative mouse model did not involve increased expression of HSPs in brain tissue (12). These findings indicate that the longevity promoting effects of HSF1 are not only attributable to chaperone induction but possibly also involve other unidentified cellular processes. HSF1 has also been ascribed regulatory functions in several physiological processes other than stress response, such as animal development, reproduction, metabolism, and cancer (8,15).

Under normal conditions, the transcriptional activity of HSF1 is inhibited by several regulatory mechanisms that collectively ensure context-dependent modulation of HSF-1 function (9). One such negative regulator of HSF-1 is the HSF-1 binding protein 1 (HSB-1), which physically binds to HSF-1 to form an inhibitory multiprotein complex (3,16). The formation of this HSF-1-inhibitory complex in *C. elegans* is not affected by heat stress but, instead, is facilitated by the insulin/IGF-1-like growth factor 1 (IGF-1)-like signaling (3), a pathway implicated in regulation of longevity in animals across evolutionary time (2). A loss-of-function mutation in the *hsb-1* gene results in dissociation of HSF-1 from this inhibitory complex and induces a robust *hsf-1*-dependent extension of life span in worms (3). However, the underlying longevity promoting mechanisms of the HSB-1/HSF-1 signaling pathway still remain elusive.

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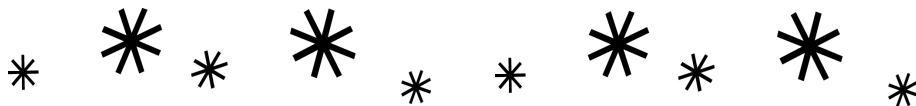


生藥所金翠庭老師(前排中間)



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活動訊息



- 1、【生藥盃】109年10月23日(五)10:00~16:00，生物藥學研究所生藥盃，籃球排球大亂鬥、趣味競賽。



The poster features a dark grey background with various sports and activity icons in circular frames: a baseball, a tennis racket, a volleyball, a badminton racket, a chicken drumstick, a monkey dancing, a boy performing a karate move, a pizza, a ballerina, a basketball, bowling pins, and a person lifting weights. The text is centered and includes the event name, date, and a schedule of activities.

生物藥學研究所

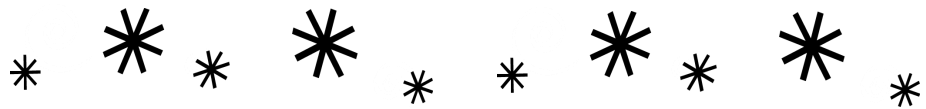
生藥盃

BPS CUP

2020/10/23(五)

10:00-10:10	集合
10:10-12:00	籃球排球大亂鬥
12:00-13:30	午餐休息
13:30-15:30	趣味競賽
15:30-16:00	頒獎與合照

活動訊息



2、【生藥所演講】109年10月28日(三)15:30~17:00，講題：Finding 3C-like protease inhibitors for suppressing SARS-CoV-2 replication 尋找可壓制 SARS-CoV-2 病毒複製的 3CL-like 蛋白酶抑制劑。講者：梁博煌研究員(中央研究院生物化學研究所)，演講地點：活動中心第三會議室。

國立陽明大學
National Yang-Ming University

生命科學院-生物醫學講座

Special lectures on biomedicine

講題

Finding 3C-like protease inhibitors for suppressing SARS-CoV-2 replication
尋找可壓制 SARS-CoV-2 病毒複製的 3CL-like 蛋白酶抑制劑

講者

梁博煌研究員
中央研究院生物化學研究所

時間

10 / 28 (三) 15:30~17:00

地點

活動中心第三會議室

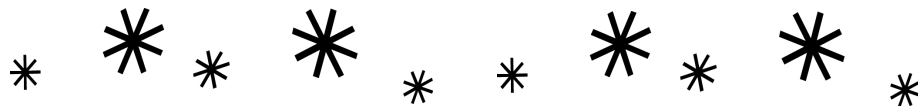
聯絡人

藥物科學院生物藥學研究所
黃淑芬小姐 分機 5604

更多演講資訊：



活動訊息



- 3、【生藥所演講】109年10月29日(四)12:30~14:00，講題：A sweet path into the unknown。
講者：劉怡昌博士/執行長(哥吉生技有限公司)，演講地點：生醫1樓階梯教室。



國立陽明大學生物藥學研究所
Institute of Biopharmaceutical Sciences
National Yang-Ming University

A sweet path into the unknown

講者：劉怡昌博士
哥吉生技有限公司
(Glycogenetics, Inc)
創辦人/執行長

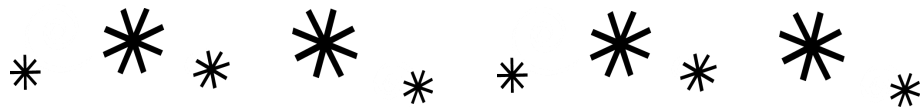
時間：109年10月29日(四) 12:30~14:00

地點：陽明大學生物醫學大樓
一樓階梯教室

主辦單位：生物藥學研究所



活動訊息



5、【職涯講座】109年11月03日(二)12:00~13:00，講題：差異化。講者：陳勁初總經理(葡萄王生技龍潭園區分公司)，演講地點：圖資4樓402教室。

藥物科學院職涯講座

題目：差異化

講者：陳勁初總經理

單位：葡萄王生技股份有限公司龍潭園區分公司



時間：11/3 星期二中午12：00

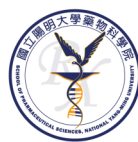
地點：圖資大樓4樓402教室

報名連結



主辦單位：藥物科學院

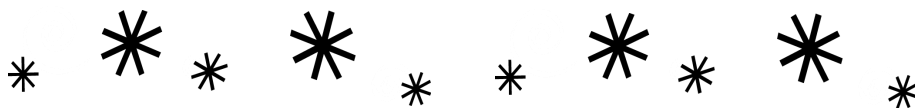
協辦單位：食品安全及健康風險評估研究所



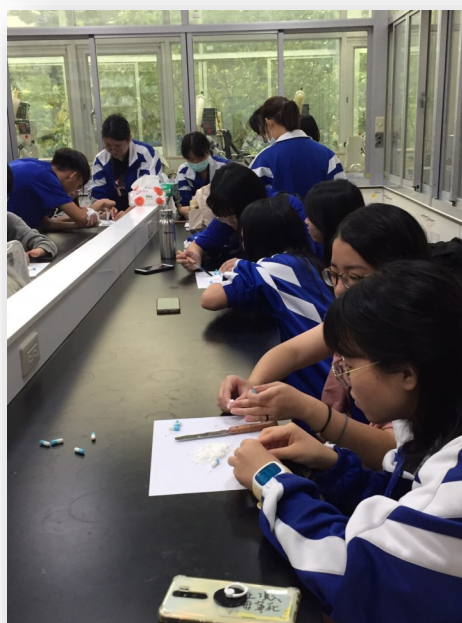
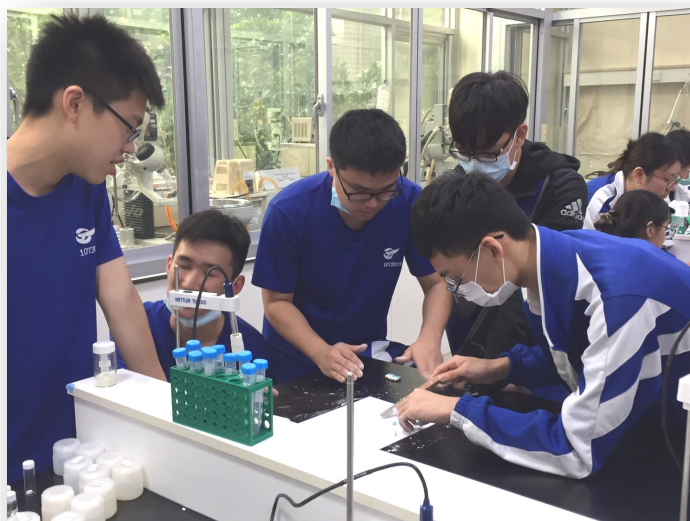
線上報名者有提供餐點，現場報名恕不提供
報名網址：<https://reurl.cc/zzKmZ7>
截止時間：109/11/02 中午12:00



活動花絮



109年10月16日(五)14:50-16:30 大直高中參訪藥學系。



發行人：康照洲院長(108年10月18日起) 編輯：葉依瑄小姐

藥物科學院週報自108年10月18日起，每週五發行(逢假日順延)，並歡迎至本院網頁 <http://www.ym.edu.tw/~phs.web/tc/index.html> 瀏覽。

