----------Curriculum Vitae----------

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Education

2003/09~2010/01	Ph.D.	Institute of Basic Medical Sciences, National Cheng Kung University, Tainan, Taiwan.
2001/09~2003/06	M.S.	Institute of Molecular Medicine, National Cheng Kung University, Tainan, Taiwan.
1997/09~2001/06	B.S.	Department of Biology, National Cheng Kung University, Tainan, Taiwan.

Academic & Professional Appointments

2014/08~present	Assistant professor in the Department and of Graduate Institute of Aquaculture, National Kaohsiung Marine University
2013/02-2014/08	Postdoctoral fellow in the Department of Physiology, National Cheng Kung University.
2012/07-2013/01	Postdoctoral fellow in the Institute of Zoology, National Taiwan University.
2011/06-2012/06	Postdoctoral fellow in the Department of Plant Pathology and Microbiology, National Taiwan University.
2010/02-2010/03	Postdoctoral fellow in the Institute of Molecular Medicine, National Cheng Kung University.

Honors / Awards / Achievements

2015 Excellent oral presentation award of 2015 Taiwan Zebrafish Symposium
基改鮭魚辨識（TVBS）
Excellent poster award of 2015 International Conference on Stem Cells and Developmental Biology
Excellent poster award of 2015 The 10th symposium of world's Chinese scientists on nutrition and feeding of finfish and shellfish.(P-253)

2014 成大孫孝芳團隊發現缺氧誘發大腸癌細胞生長因子表現（華視電子報、自由時報、中國時報、Yahoo 新聞、NowNews 電子報…）

2013 Excellent poster award of 2013 Taiwan Zebrafish Symposium

Excellent poster award of The Twenty-Eight Joint Annual Conference of Biomedical Sciences

2012 Excellent poster award of Asia-Pacific Developmental Biology Conference (APDBC 2012)

2011 Merit award of Chinese Military

2007 First prize for the progress report in Medical College, National Cheng Kung University

Publications

1. Hung IC, Hsiao YC, Sun HS, **Chen TM***, Lee SJ*. miRNA and transcriptome analyses reveal the modulation of cold tolerance by *Per2* and associated miRNA in zebrafish larvae. *BMC Genomics* 2016 (under revision) (*co-correspondence)
2. Huang WC, Hung CM, Wei CT, Chien PH, Pan HL, **Chen TM**, Chen YJ. Interleukin-6 expression contributes to lapatinib resistance through maintenance of stemness property in HER2-positive breast cancer cells. *Oncotarget* 2016 (accepted)
3. Yen WH, Ke WS, Hung JJ, **Chen TM**, Chen JS, Sun HS. Sp1-mediated ectopic expression of T-cell lymphoma invasion and metastasis 2 in hepatocellular carcinoma. *Cancer Med.* 2016 Mar; 5(3): 465-77.
4. Tsai MK, Wang HM, Shiang JC, Chen IH, Wang CC, Shiao YF, Liu WS, Lin TJ, **Chen TM***, and Chen YH*. Sequence variants of *ADIPOQ* and association with Type 2 diabetes mellitus in Taiwan Chinese Han population. *The Scientific World Journal.* 2014; 2014:650393. (*co-correspondence)
5. **Chen TM**, Shih YH, Tseng JT, Lai MC, Wu CH, Li YH, Sun HS. Overexpression of FGF9 in colon cancer cells is mediated by hypoxia-induced translational activation. *Nucleic Acids Res*. 2014 Mar 1;42(5):2932-44. Epub 2013 Dec 10.
6. Gau BH, **Chen TM**, Shih YH, Sun HS. FUBP3 interacts with FGF9 3' microsatellite and positively regulates FGF9 translation. *Nucleic Acids Res*. 2011 39(9):3582-93. Epub 2011 Jan 19.
7. **Chen TM**, Hsu CH, Tsai SJ and Sun HS. AUF1 p42 isoform selectively controls both steady-state and PGE_2-induced FGF9 mRNA decay. *Nucleic Acids Res.* 2010 38(22):8061-71. Epub 2010 Aug 16.
8. **Chen TM**, Kuo PL, Hsu CH, Tsai SJ, Chen MJ, Lin CW and Sun HS. Microsatellite in the 3' untranslated region of human fibroblast growth factor 9 (FGF9) gene exhibits pleiotropic effect on modulating FGF9 protein expression. *Hum Mutat.* 2007 28(1):98.
9. Lin YM*, Chao SC*, **Chen TM**, Lai TJ, Chen JS and Sun HS. Functional polymorphisms of the human tryptophan hydroxylase 2 genes confer risk of bipolar disorder. *Arch Gen Psychiatry*. 2007 64(9):1015-24.
10. Chuang PC, Sun HS, **Chen TM**, Tsai SJ. Prostaglandin E2 induces fibroblast growth factor 9 via EP3-dependent protein kinase Cδ and Elk-1 signaling. *Mol Cell Biol*. 2006 26(22):8281-92.
11. Lai TJ, Wu CY, Fann CSJ, **Chen TM**, and Sun HS. Association study of the tryptophan

hydroxylase gene polymorphism and bipolar affective disorder in Taiwan. *J Genet Mol Biol.* 2002 13(2):101-104.

Conference and Presentations

1. **Chen TM**, Chen CF, Ju YR, Chiu KH, Chen CW, Dong CD. Metagenomics reveals microbial community shift responded to pollution of sediment in Kaohsiung Harbor. 2016 International Conference on the "Challenges in Environmental Science and Engineering (CESE-2016)
2. 林昱君，**陳琮明**，邱國勛，黃俞升，劉莉蓮 台灣南部海水養殖環境海綿共生菌相之研究 2016（第 6 屆）新興污染物論壇．高雄
3. Wang YM, **Chen TM**, Tseng JT, Sun HS. Whole genome profiling of hypoxia-induced, IRES-mediated translational regulation. 2016. The annual meeting of RNA. P-364. Koyto.
4. Chiu KH, Wu TM, Liu CH, Wang WK, Liu LL, **Chen TM**. The transcriptome network analysis of coloration in *Taiwan Bee* (Crystal Red Shrimp). 2016. The annual meeting of RNA. P-176. Koyto.
5. Chiu KH, Chen CW, Tsai ML, Chen CF, Ju YR, **Chen TM**, Dong CD. NMR-based metabolomics for the environmental assessment of Kaohsiung harbor sediments exemplified by a marine Amphipod (*Hyalella azteca*). 2016 The 8th International Conference on Marine Pollution and Ecotoxicology. P-57. Hong Kong.
6. **陳琮明**，陳志峰，朱韻如，蔡美玲，董正釱．利用總微生物相分析高雄港污染底泥與微生物整治之評估．2016 The 9th Conference of Groundwater Resources and Water Protection Across-Strait Symposium on the Applications of Groundwater and Hydrogeology. D4-9, p163. (Oral presentation)
7. **陳琮明** 抗寒基因之研究育種應用．2016 預防水產養殖寒害之抗寒策略與措施論壇．(Oral presentation)
8. **陳琮明**，吳宗孟，劉俊宏，王唯匡，江秀稻，蘇耀龍，胡子文，邱國勛．台灣水晶蝦呈色調控體學分析. 2016 Annual meeting for the fisheries society of Taiwan. CP-16.
9. 查安妮，劉俊宏，李孟洲，**陳琮明**，邱國勛，吳宗孟 金魚藻調控本身抗氧化系統來抵抗對特辛基酚引起之氧化逆境 2016 Annual meeting for the fisheries society of Taiwan. FPA-18.
10. **Chen TM**, Chiu KH, Liu CH, Wu TM. Dietary choline supplementation improves the survival rate and stimulates the maturation of taiwan bee (*Caridina* sp.). 2015 The 10th symposium of world's Chinese scientists on nutrition and feeding of finfish and shellfish. P-93. Wuhan, China.
11. Chiang SD, Liu WS, Wu TM, Liu CH, Chu TW, Cheng AC, **Chen TM**, Chiu KH. The influence of culture medium on lycogen compositon in *Rhodobacter sphaeroides* WL-APD911. 2015 The 10th symposium of world's Chinese scientists on nutrition and feeding of finfish and shellfish. P-253. Wuhan, China.
12. Chai CY, Chiu KH, **Chen TM**, Wu TM, Liu CH. Effect of X-xylanase incorporated in diet on

the growth performance of tilapia. 2015 The 10th symposium of world's Chinese scientists on nutrition and feeding of finfish and shellfish. P-50. Wuhan, China.

13. Wang YM, **Chen TM**, Sun HS. Identification of initiation factors involved in the activation of hypoxia-induced, IRES-mediated FGF9 protein translation. 2015 Annual retreat of Institute of Molecular Medicine, National Cheng Kung University Medical College.
14. Hung IC*****, **Chen TM***, Lin JP, Tai YL, Shen TL and Lee SJ. Zebrafish focal adhesion kinase 1a co-operate with Wnt5b to mediate enveloping layer and mesodermal cell migration during gastrulation via small GTPase. 2015 Taiwan Zebrafish Symposium. (* authors with equal contributions) (Oral presentation, Excellent oral presentation award)
15. Hung IC*****, **Chen TM***, Lin JP, Tai YL, Shen TL and Lee SJ. Zebrafish focal adhesion kinase 1a co-operate with wnt5b to mediate enveloping layer and mesodermal cell migration during gastrulation via small GTPase. 2015 International Conference on Stem Cells and Developmental Biology. (Excellent poster award)
16. **Chen TM**, Hung IC, Hsiao YC, Chiang SD, Lee SJ. Cold shock induced circadian gene expression in zebrafish. 2015 World Aquaculture. poster ID #365. Jeju, Korea.
17. Hung IC, Hsiao YC, **Chen TM**, Lee SJ. The role of clock genes in zebrafish cold acclimation. 2015 The Thirty Joint Annual Conference of Biomedical Sciences.
18. Li YH, **Chen TM**, Sun HS. The male sex-determination gene SRY binds to human fibroblast growth factor 9 (FGF9) promoter and upregulates FGF9 expression. 2015 The Thirty Joint Annual Conference of Biomedical Sciences.
19. 林正吉，江秀稻，**陳琮明**，吳宗孟，邱國勛 豐年蝦滯育終止調控對代謝體之影響 2014 Annual meeting for the fisheries society of Taiwan. P-Eco-08.
20. Hung IC, Hsiao YC, **Chen TM**, Lee SJ. The role of clock genes in zebrafish cold acclimation. 2014 Taiwan Zebrafish Symposium.
21. Hung IC*****, **Chen TM***, Lin JP, Tai YL, Shen TL and Lee SJ. Fak1a and Wnt5b cooperatively mediate enveloping layer and mesodermal cell migration via Rho/Rac/Cdc42 during gastrulation. 2014 Developmental biology retreat. (* authors with equal contributions, Excellent poster award)
22. Wu YC, **Chen TM**, Tseng JT and Sun HS. Study the mechanism of HuR-medicated regulation on FGF9 expression under hypoxia. 2014 The Twenty-Nine Joint Annual Conference of Biomedical Sciences.
23. Yen WH, Hung JJ, **Chen TM**, Chen JS, Ke WS and Sun HS. The regulatory mechanism of Sp1 on T-Cell Lymphoma Invasion and Metastasis 2 (TIAM2) expression in Hepatocellular Carcinoma. 2014 The Twenty-Nine Joint Annual Conference of Biomedical Sciences.
24. **Chen TM**, Lin JP, Hung IC, Shen TL and Lee SJ. Focal adhesion kinase works downstream of Wnt5b to mediate gastrulation cell movements via modulating actin dynamics in zebrafish. 2013 Developmental biology retreat.(Oral presentation)
25. **Chen TM**, Lin JP, Hung IC, Shen TL and Lee SJ. Focal adhesion kinase works downstream of

Wnt5b to mediate gastrulation cell movements via modulating actin dynamics in zebrafish. 2013 8th European Zebrafish meeting, Ref. 350.

26. Hsiao YC***, Chen TM***, Sun HS and Lee SJ. Cold-shock induced microRNA change in zebrafish. 2013 8th European Zebrafish meeting, Ref. 353. (* authors with equal contributions)
27. Wu CH, Lai MC, **Chen TM** and Sun HS. Identification of IRES trans-acting factors (ITAFs) involved in the hypoxia-induced translational up-regulation of FGF9 protein expression. 2013 The Twenty-Eight Joint Annual Conference of Biomedical Sciences. (Excellent poster award)
28. Hsiao YC***, Chen TM***, Sun HS and Lee SJ. The regulatory role of microRNAs in cold shock using zebrafish as model. 2013 The Twenty-first Symposium on Recent Advances in Cellular and Molecular Biology Kenting. (* authors with equal contributions)
29. **Chen TM***, Hsiao YC*, Sun HS and Lee SJ. Changes of microRNA profiles upon cold shock in zebrafish. 2012 The Fisheries Society of Taiwan, p13. (Oral presentation). (* authors with equal contributions)
30. **Chen TM**, Lin JP, Shen TL and Lee SJ. Focal adhesion kinase 1a regulates morphological cell movements during zebrafish gastrulation. 2012 Asia-Pacific Developmental Biology Conference (APDBC 2012), p178. (Excellent poster award)
31. **Chen TM**, Lin JP, Shen TL and Lee SJ. Fak1a regulate the mesoderm formation and axis patterning by controlling gastrulation cell movements in zebrafish. 2012 The Twenty-Seven Joint Annual Conference of Biomedical Sciences. (Oral presentation)
32. **Chen TM**, Lin JP, Shen TL and Lee SJ. Fak1a controls gastrulation cell movements to regulate the mesoderm formation and axis patterning in zebrafish. 2011 Taiwan Zebrafish Symposium, p19. (Oral presentation)
33. **Chen TM**, Hsu CH, Tsai SJ and Sun HS. AUF1 isoform specifically binds to the 3' UTR of human fibroblast growth factor 9 (*FGF9*) gene and controls FGF9 mRNA decay. RNA 2010 Symposium, p59.
34. Gau BH, **Chen TM** and Sun HS. Far upstream element-binding protein 3 (FUBP3) positively regulates FGF9 expression through the (UG) dinucleotide repeats on FGF9 3'-untranslated region. RNA 2010 Symposium. p49.

Hypoxia-induced FGF9 overexpression in colon cancer tumorigenesis is through hnRNPM-mediated cap-independent translation

Human FGF9 is a mitogen involved in many physiological processes, and also functions as a potent survival factor under stress. Abnormal expression of FGF9 has been found in many human diseases, thus expression of FGF9 needs to be kept at a low level to keep a balance between normal physiological functions and disease. The mechanisms which control FGF9 expression and maintain FGF9 homeostasis remain largely unknown. Our study showed that FGF9 is kept at a low level under normal physiological conditions through translational repression. However, an internal ribosome entry site (IRES) in FGF9 5'UTR functions as a cellular switch to turn on FGF9 protein synthesis during hypoxia. Apparatus of the translational machinery are reported to interact with IRES elements, such as initiation factors, IRES-interacting factors (ITAFs) and ribosomal subunits. These interactions are believed to participate in IRES-mediated translational switch, and are important to these hypoxic response genes, especially for genes lacking consensus hypoxia-responsive elements in the promoter region. We have identified a protein, heterogeneous nuclear ribonucleoprotein M (hnRNP M), as a novel FGF9 IRES binding protein and controls FGF9 mRNA translation under hypoxia. We demonstrated that endogenous hnRNPM translocate from the nucleus to the cytoplasm and promotes IRES-containing mRNA translation during low oxygen condition. Transcriptomic- and translatomic-wide analyses identified a specific subset of hnRNPM-targeted mRNAs with increased ribosome occupancy during hypoxia. Furthermore, hnRNPM expression is highly correlated with aggressive cancer types and poor outcome of colorectal cancer samples. These data highlight the dynamic role for hnRNPM in transforming hypoxia-induced proteome toward malignancy and demonstrate significant implications for targeting IRES-mediated translation as an anti-cancer regimen.