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二. 教育背景

2011.09-2015.06, 安徽大学, 生物技术专业, 本科;

2015.09-2018.06, 中国海洋大学, 海洋生物学专业, 硕士;

2018.09-2021.12, 中国科学院海洋研究所, 海洋生物学专业, 博士。

三. 教学方面

主讲课程:《发酵工程》、《发酵产品工艺学》、《氨基酸工艺学》、《文献检索与科技论文写作》、《生物工程专业前沿》。

四. 科研方面

1. 研究方向

长期致力于藻类生理生化与分子生物学研究, 近期主要关注高值经济微藻遗传性状改良、微藻及菌藻耦合资源开发与利用、废水净化与高值化利用。

2. 科研项目

1) 国家自然科学基金: 虾青素合成关键基因转化促使雨生红球藻绿色阶段积累虾青素的研究(32202907), 在研, **主持**;

2) 安徽工程大学引进人才科研启动基金: 基于内源 bkt 转化构建高产虾青素的雨生红球藻探究(2022YQQ018), 在研, **主持**;

3) 国家自然科学基金委员会面上项目: 浒苔类囊体结构和 PSI、PSII 等膜蛋白复合体对失水胁迫的响应机制(41976097), 在研, **参与**。

3. 论文发表

- 1) **He B**, Dai W, Zhang Q, Shi Z, Li Y, Wang H, 2024. Transcriptome and metabolome analysis reveals the salt stress-response mechanism in desert isolated *Chlorella* sp. DT025. *Algal Research*, 103484.
- 2) **He B**, Zheng Z, Niu J, Xie X, Wang G, 2023 Transcriptome analysis revealed regulatory mechanisms of light and culture density on free-living sporangial filaments of *Neopyropia yezoensis* (Rhodophyta). *Algae* 38(4), 283-294.
- 3) **He B**, Zheng Z, Wang H, Xie X, Wang G, 2023 The high light-inducible protein (NyHLIP1) has a long half-life and possesses an important role in the high light stress response of resurrection

- 4) **He B**, Zheng Z, Xie X, Wang G. (2022). Overexpression of adenosine 5'-monophosphate deaminase increased umami substance—Inosine 5'-mononucleotide and promoted *Neopyropia yezoensis* quality. *Algal Research*. **65**:102737.
- 5) **He B**, Hou L, Dong M, Shi J, Huang X, Ding Y, Cong X, Zhang F, Zhang X, Zang X (2018) Transcriptome analysis in *Haematococcus pluvialis*: Astaxanthin induction by high light with acetate and Fe²⁺. *International Journal of Molecular Sciences* **19** (1):175
- 6) **He B**, Hou L, Zhang F, Cong X, Wang Z, Guo Y, Shi J, Jiang M, Zhang X, Zang X (2020) Ultrastructural changes of *Haematococcus pluvialis* (Chlorophyta) in process of astaxanthin accumulation and cell damage under condition of high light with acetate. *Algae* **35** (3):253-262
- 7) **He B**, Niu J, Xie X, Wang G (2021) Development of free-living sporangial filaments regulated by light and culture density in *Neopyropia yezoensis*. *Algal Research* **58**:102378
- 8) **He B**, Gu W, Wang L, Zheng Z, Shao Z, Huan L, Zhang B, Ma Y, Niu J, Xie X, Wang G (2021) RNA-seq between asexual archeospores and meiosis-related conchospores in *Neopyropia yezoensis* using smart-seq2. *Journal of Phycology* **57**:1648-1658
- 9) Zheng Z, **He B**, Xie X, Wang G (2021) Co-suppression in *Pyropia yezoensis* (Rhodophyta) reveals the role of PyLHCI in light harvesting and generation switch. *Journal of Phycology* **57** (1):160-171
- 10) Cong X, Zang X, Dong M, Wang Z, **He B**, Hou L, Wei X, Zhang F, Shang M, Yangzong Z (2020) Accumulation of phytoene and astaxanthin and related genes expression in *Haematococcus pluvialis* under sodium acetate stress. *Aquatic Biology* **29**:155-164
- 11) Ma Y, **He B**, Wang X, He L, Niu J, Huan L, Lu X, Xie X, Wang G (2021) Differential proteomic analysis by iTRAQ reveals the growth mechanism in *Pyropia yezoensis* mutant. *Algal Research* **58**:102420
- 12) Hou L-l, Liu F, Zang X, Zhang X, **He B**, Ding Y, Song X, Xiao D, Wang H (2017) Cloning and transcription analysis of the nitrate reductase gene from *Haematococcus pluvialis*. *Biotechnology letters* **39** (4):589-597
- 13) Shi J, Zang X, Cong X, Hou L, **He B**, Ding Y, Dong M, Sun D, Guo Y, Zhang F (2019) Cloning of nitrite reductase gene from *Haematococcus pluvialis* and transcription and enzymatic activity analysis at different nitrate and phosphorus concentration. *Gene* **697**:123-130
- 14) Ding Y, Zang X, Shi J, Hou L, **He B**, Dong M, Cong X, Cao X, Liu Z, Song X (2019) cDNA cloning of *gs*, *gogat*, and *gdh* from *Haematococcus pluvialis* and transcription and enzyme level analysis in different nitrogen concentration. *Journal of Applied Phycology* **31** (1):183-190
- 15) Huang X, Zang X, Wu F, Jin Y, Wang H, Liu C, Ding Y, **He B**, Xiao D, Song X (2017) Transcriptome sequencing of *Gracilariopsis lemaneiformis* to analyze the genes related to optically active phycoerythrin synthesis. *PLoS One* **12** (1):e0170855
- 16) 杨佳丽, 冯泽中, 牛建峰, 顾文辉, 何帮翔, 刘雪华, 邵之卓, 郑阵兵, 王旭雷, 王广策 (2021) 低盐、高温诱导的条斑紫菜 (*Pyropia yezoensis*) 病烂机制研究. *海洋与湖沼* **52** (05):1214-1223

五. 获得荣誉

1. 指导本科生学术作品《微藻基碳量子点合成及其对微藻-细菌产油产氢的影响》获全国大学生生命科学竞赛安徽省二等奖，2023。
2. 指导本科生获“互联网+”大赛三等奖，2023。