

## CURRICULUM VITAE

**ZHANG Zong-Shen**

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### 1. Personal Particulars

**Name:** ZHANG Zong-Shen

**DOB:** 15 Mar 1968

**Nationality:** China

**Academic title:** Professor



### 2. Educational Background

**Ph.D. in Plant Biology (2001):**

School of Life Sciences, Wuhan University, Wuhan, China.

Concentration: Physiological & Cellular Biology. Functions of ABA, Ca<sup>2+</sup> & small HSPs in the process of resistance against adverse environmental stimulation.

**M.Sc. In Biochemistry (1996):**

College of Life Sciences, South China Agricultural University, Guangzhou, China

Concentration: Enzymology in the systemic resistance of plant against pathogenicity of fungus.

**B.Sc. in Plant Physiology & Biochemistry (1990):**

Department of Biology, South China Agricultural University, Guangzhou, China.

### 3. Working Experience

**2004-Present: Professor, Dalian Polytechnic University, Dalian, China**

- Establishment of Culture System for Medicinal Plant Cells, Organs (Hairy roots, Adventitious roots), and Tissue in Large Scale.
- Development of Fermentation of Herbal Plants by Edible Fungi and Discovery of Novel Active Ingredient
- Mechanism of PCD during Morphological Development of Plant

**2002-2004: Post-doctoral Research Fellow, Paris University (VII)(Diderot), Paris, France**

- Signaling & Functions of Phytohormone (BRs, ABA *etc.*) in the Growth & Stress Response of Plant Cells.

**2001-2002: Lecturer, Research Assistant, Shanghai Jiaotong University, Shanghai, China**

- Mechanism of Aging and Reserve Technology for Vegetable during Cold-Chain

#### 4. Research interest

Development of Technology for Sustainable Utilization of Rare & Endangered Medicinal Plant Species, mainly Focus on the Culture System of Suspension Cells, Hairy Roots, and Tissues in Large Scale.

Fermentation of Herbal Plants by Edible Fungi and Discovery of Novel Active Ingredient, Especially Those with Activity of Diabetes-Treatment, Tumor-Resistance.

#### 5. Selected Publications

- (1) **Z Zhang**, et al. Induction of *Psammosilene tunicoides* adventitious roots and the accumulation of triterpenoid saponins as affected by culture conditions . **Inter J Agri Biol**, 2017,19(6):1535-1540
- (2) W Wu, S Liu, P Yu, X Tao, X Lu, J Yan, Q Wang, **Z Zhang**. Role of systemic injection of rabies immunoglobulin in rabies vaccination. **Arch Virol**, 2017, 1626 (6) :1701–1703
- (3) G Zhang, D Hou, D Xu, S Ma, S Wang, **Z Zhang**, et al. DNA barcoding for identification of *Melicope pteleifolia* and its close species based on ITS2 sequences. **Plant Omics** , 2015, 8(4): 322-326
- (4)**Z Zhang**, et al. Establishment of suspension cell culture from *Agrobacterium*-transformed hairy root cells of *Psammosilene tunicoides*, an endangered and rare medicinal plant of China. **Adv J Food Sci Tech**,2015,9(5): 379-385
- (5) Z Jin, Q Guo, **Z Zhang**, et al. Biodegradation of type II pyrethroids and major degraded products by a newly isolated *Acinetobacter* sp. strain JN8. **Can J Microbiol**, 2014 ,60(8):541-545
- (6) **Z Zhang**, et al.Induction and characterization of callus from *Psammosilene tunicoides* hairy roots. **J Chem Pharm Res**, 2014, 6(3):1394-1399.
- (7)**Z Zhang**, et al. Liquid Culture of Adventitious Roots is a Potential Alternative to Field Cultivation for *Psammosilene tunicoides*, a Rare and Endangered Endemic Medicinal Plant. **Adv J Food Sci Tech**, 2013 5(2): 127-131
- (8)G Chen, W Wei, **Z Zhang**. Accumulation of saponins in the callus of *Psammosilene tunicoides*, a rare and endangered medicinal plant.**IEEE**, 2011,9:7335-7338
- (9)B Zhu, J Yu, **Z Zhang**, et al. Purification and partial characterization of an acid phosphatase from the body wall of sea cucumber *Stichopus japonicus*. **Proc Biochem**,2009, 44:875-879

(10) T Liu, **Z Zhang\***, *et al.* Changes in abscisic acid immunolocalization in heat-stressed pepper seedlings. **Pak J Bot**,2009,41(3):1173-1178

(11)B Zhu, J Zhao, J Yang, T Mikiro, **Z Zhang**, *et al.* Purification and partial characterization of a novel  $\beta$ -1,3-glucanase from the gut of sea cucumber *Stichopus japonicus*. **Proc Biochem**, 2008,43:1102-1106

(12)J Trouverie, G Vidal, **Z Zhang**, *et al.*Anion channel activation and proton pumping inhibition involved in the plasma membrane depolarization induced by aba in arabidopsis th49(10):1495-507n cells are both ROS dependent. **Plant Cell Physiol**, 2008, 49(10):1495-1507

(13)B Zhu, J Zheng, **Z Zhang**, *et al.* Autophagy plays a potential role in the process of sea cucumber body wall "melting" induced by UV irradiation. **J Wuhan Univ (Natural Science Edition)**, 2008,13(2):232-238

(14)C Zalejski, **Z Zhang** , *et al.* Diacylglycerol pyrophosphate is a second messenger of ABA signalling in Arabidopsis thaliana suspension cell. **Plant J**, 2005, 42: 145-152

(15)**Z Zhang Z**, *et al.* Brassinosteroids regulate plasma membrane anion channels in addition to proton pumps during expansion of Arabidopsis thaliana cells. **Plant Cell Physiol**, 2005, 46(9):1494-1504

(16) **Z Zhang**, *et al.* Temporal and spatial changes in  $Ca^{2+}$  distribution during the programmed cell death of tracheary elements. **Chin Sci Bull**,2001,46:1893-1896

(17) M Brault , Z Amia, AM Pennarun, M Monestiez, **Z Zhang** ,*et al.* Plasm membrane depolarization induced by ABA in Arabidopsis thaliana suspension cells involves reduction of proton pump in addition to anion channel activation which are both  $Ca^{2+}$  dependent . **Plant Physiol** ,2004,135:231-243

## 6. Patent

(1) **Z Zhang**, *et al.* 2012. Method for induction and culture of hairy roots of *P. tunicoides* (China Patent: ZL 200910237579. 2 , China).

(2)S Chai, H Hong, **Z Zhang**, *et al.* 2013. Method for induction and large scale culture of adventitious roots of *P. tunicoides* (China Patent: ZL201210293609.3, China)

(3) **Z Zhang** et al. 2014.Method for preparation & culture of hairy roots of *Huperzia serrata* .(China Patent: ZL201110108347.4, China)

(4)**Z Zhang** , *et al.*Method for preparation & culture of hairy roots of *Eurycoma longifolia*.(China Patent: ZL201110108319.2, China)

(5)**Z Zhang** , *et al.* 2014.Method for isolation & extraction of huperzine A from *Huperzia serrata* and its hairy roots using supercritical extractive-crystallization (China Patent: ZL201110129850.8, China)

(6) **Z Zhang** , *et al.* Method for preparation of somatic embryo and its application in propagation of *Broussonetia*.(China Patent: ZL201510346965.0, China)