Hao Jin

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EDUCATION BACKGROUND

Sep. 2022-Present **Master Student**, Animal Genetic Breeding and Reproduction Science, Laboratory of Mammalian Molecular Embryology, College of Animal Sciences, Zhejiang University, Hangzhou, Zhejiang Province, PRC (Mentor: Kun Zhang)

Sep. 2018-Jul. 2022 **Bachelor of Agriculture**, Animal Science, Zhejiang University, Hangzhou, PRC

RESEARCH INTERESTS

- Epigenetic regulation of pluripotency & totipotency maintain and stem cell differentiation.
- Epigenetic and chromatin reprogramming in embryonic development and cell fate determination.
- Epigenetics and epigenome editing in aging & disease.
- High-throughput single-cell omics technology

RESEARCH EXPERIENCE

Master Student, College of Animal Sciences, Zhejiang University, 09/2022-present
Advisor: Dr. Kun Zhang
we focus on transcription regulation in the mammalian genome that governs early mouse and bovine embryonic development. For this purpose, we utilize techniques such as RNAi, gene editing and inhibitor interference, combining high-throughput omics analysis, like RNA-seq and ChIP-seq, to decipher the mechanisms underlying the key biological processes (especially Zygotic genome activation and first lineage specification).

Responsibility:

- Project 1: Principles of the earliest lineage specification and X chromosome dosage compensation in bovine early embryos. (published, Co–first author)
- Project 2: Dynamic change and functions of A (one histone modifying writer) during zygotic genome activation in mice and bovine (in progress, Co–first author).

- Project 3: Function of general transcription factor XX in bovine ZGA. (in progress, first author)
- Project 4: Functions of C (one histone modifying reader) during preimplantation embryo development in mice and bovine (in progress, Co–first author).

Undergraduate Student, College of Animal Sciences, Zhejiang University, 09/2021-06/2022
Advisor: Dr. Kun Zhang
Responsibility:

- Function of SOX2 in bovine early embryo development.

Undergraduate Student, College of Animal Sciences, Zhejiang University, 09/2020-06/2021
Advisor: Dr. Jinrong Peng
Responsibility:

- Cloning of ribosomal small subunit assembly complex protein gene and preliminary study on its entry mechanism into nucleolus.

RELEVANT SKILLS

- **Embryology**: Micromanipulation of oocytes and embryos in mice and cattle; In vitro maturation, in vitro fertilization and in vitro culture; Microinjection for oocytes, zygotes and 2-cell embryos.
- **Cell Biology**: Immunofluorescence; Confocal and epifluorescence microscopy; Cell culture.
- **Molecular biology**: Molecular cloning; mRNA in vitro synthesis; Low-input library construction (e.g. scRNA-seq and CUT&Tag).
- **Bioinformatics analysis**: Proficient in using R and Linux; Integrated analysis of multi-omics data, including RNA-seq, ChIP-seq, ATAC-seq et al.

HONORS AND AWARDS

- Excellent College Students of Zhejiang University, 2022
- The Second Prize of Zhejiang University scholarship, 2020
- The Thrid Prize of Zhejiang University scholarship, 2019, 2021

PUBLICATIONS, ABSTRACTS and PRESENTATIONS

Peer-reviewed Articles (chronological)

# These authors contributed equally

1. Hu B#, **Jin H**#, Shi Y, Yu H, Wu X, Wang S, Zhang K. Single-cell RNA-Seq reveals the earliest lineage specification and X chromosome dosage compensation in bovine preimplantation embryos. ***FASEB J***. 2024 Feb 29;38(4): e23492.

Abstracts

1. **Hao Jin**, Lei Luo, Yan Shi, Bingjie Hu, Kun Zhang. SOX2 is Essential for Inner Cell Mass Lineage Commitment in Bovine blastocysts. Society for the Study of Reproduction, 2023

Oral Presentation

1. **Hao Jin**, Bingjie Hu, Yan Shi, Haotian Yu, Xiaotong Wu, Shaohua Wang, Kun Zhang. Single-Cell RNA-Seq Reveals the Earliest Lineage Specification and X Chromosome Dosage Compensation in Bovine Preimplantation Embryos. Society for the Study of Reproduction, 2024

REFERENCES

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