

**miR-125b accumulated in bone matrix suppresses osteolytic bone
metastasis**

(骨基質由来 miR-125b は溶骨性骨転移を抑制する)

Ph.D. Applicant Nushrat Sarmin



Department of Calcified Tissue Biology

Biomedical Science Major

Graduate School of Biomedical and Health Sciences

Hiroshima University

Supervisor: Yuji Yoshiko, Ph.D.

2020

Contents

1. Abstract	1
2. Introduction	2
3. Materials and Methods	5
3.1. Animals	
3.2. Chemicals	
3.3. Cell cultures	
3.4. PCR	
3.5. MV isolation	
3.6. Protein, alkaline phosphatase (ALPL) assay	
3.7. MTT and EdU assay	
3.8. Wound healing assay	
3.9. Trans-well invasion assay	
3.10. Trans-well migration assay	
3.11. Transfection of cells with miR-125b mimic	
3.12. Py8119 cells expressing luciferase	
3.13. Mouse model of bone metastasis	
3.14. Micro-computer tomography (CT)	
3.15. In vivo imaging	
3.16. Histology	
3.17. miRNA database for candidate target genes	
3.18. Statistical Analysis	

4. Results.....	12
4.1. MVs and miR-125b suppresses proliferation, migration and/or invasion of cancer cells	
4.2. MiR-125b diminish bone loses caused by cancer cells progression	
4.3. Candidate Target genes of miR-125b in Py8119 cells	
5. Discussion	15
6. Figure legends	19
7. Figures and tables.....	21
8. References	29

