

CURRICULUM VITAE

I. Personal



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II. Education and career

2006.03-2010.02	Pusan National University, Busan, Korea, B. S. degree (Biology)
2006.03-2010.02	Pusan National University, Busan, Korea, LL. B. degree (Law) as double major
2010.03-2012.02	Pusan National University, Busan, Korea, M. S. degree (Biological Sciences)
2012.03-2017.02	Pusan National University, Busan, Korea, Ph. D. Course (Biological Sciences)
2017.03-2017-10	Ulsan National Institute of Science and Technology (UNIST), Ulsan, Korea The Genomics Institute, Life Sciences Department, Postdoctoral Researcher

Master's thesis **Onco-miRNAs derived from transposable elements in colorectal cancers**
Doctoral thesis **Bioinformatic, Genetic, and Epigenetic Analysis of Horse Genome**

III. Publications

<International journal>

- [36] Lee EK, Jeong HO, Bang EJ, Kim CH, Mun JY, Noh S, **Gim J-A**, Kim DH, Chung KW, Yu BP, Chung HY: The involvement of serum exosomal miR-500-3p and miR-770-3p in aging: modulation by calorie restriction. *Oncotarget*. [Accept]
- [35] **Gim J-A**, Do K-T: Molecular Analysis of C/EBP β and C/EBP δ Genes and Their Role in Exercise in the Thoroughbred Horses. *Indian J Anim Sci*. [1st submit].
- [34] Nam G-H, Anshuman M, **Gim J-A**, Lee H-E, Jo A, Yoon d, Kim A, Ahn K, Kim D-H, Kim S, Cha H-J, Choi YH, Park C-I, Kim H-S: Profiles of gene expression change after infection by virus, bacteria, and parasite in the Olive flounder gill tissue (*Paralichthys olivaceus*). *Sci. Rep*. [1st revision].
- [33] Anshuman M, Nam G-H, **Gim J-A**, Lee H-E, Jo A, Yoon D, Oh S, Kim S, Kim A, Kim D-H, Kim YC, Jeong HD, Cha H-J, Choi YH, Kim H-S: Comparative evaluation of MCP gene in world-wide strains of Megalocytivirus (Iridoviridae family) for early diagnostic marker. *J Fish Dis*. [Accept]
- [32] Lee S-I, **Gim J-A**, Lim M-J, Kim H-S, Nam B-H, Kim N-S: Ty3/Gypsy retrotransposons in the Pacific abalone *Haliotis discus hannai*: Characterization and use for species identification in the genus *Haliotis*. *Genes Genom* [Accept].
- [31] Kim DH*, **Gim J-A***, Kim KH, Han CW, Jang SB, Kim H-S: Alzheimer's disease related genes during primate evolution. *Genes Genom*. [Accept].
- [30] Mishra A, Nam G-H, **Gim J-A**, Seong M, Choe Y, Lee H-E, Jo A, Kim S, Kim D-H, Cha H-J, Kang HY, Choi YH, Kim H-S: Comparative evaluation of 16S rRNA gene in world-wide strains of *Streptococcus iniae* and *Streptococcus parauberis* for early diagnostic marker. *Genes Genom*. [Accept].
- [29] Mishra A, G-H Nam, **Gim J-A**, H-E Lee, A Jo, Kim H-S: Current Current challenges of Streptococcus infection and effective molecular, cellular and environmental research in aquaculture. *Mol. Cells* [submit].
- [28] **Gim J-A**, Kim H-S: Identification and expression analyses of equine endogenous retroviruses in horses. *Mol. Cells* [Accept].
- [27] **Gim J-A**, Kim H-S: Identification and Expression of MER-derived miRNA in Horses. *Mol. Cells* 2017, 40(4): 262.

- [26] Kim DH*, **Gim J-A***, Mishra A*, Lee K, Cho Y, Kim H-S: SNP analysis of genes related to cholesterol metabolism and associated with late-onset Alzheimer's disease. *Genes Genom.* 2017, **39**(6): 593-600.
- [25] Kim DH*, **Gim J-A***, Yoon D*, Kim S, Kim H-S: Metabolomics and mitochondrial dysfunction in Alzheimer's disease. *Genes Genom.* 2017, **39**(3): 295-300.
- [24] Kim DH*, **Gim J-A***, Yeo SH, Kim H-S: Integrated late onset Alzheimer's disease (LOAD) susceptibility genes: Cholesterol metabolism and trafficking perspectives. *Gene.* 2017, **597**: 10-16.
- [23] **Gim J-A**, Nam G-H, Kim W-J, Lee H-E, Mishra A, Choe Y, Park C-I, Kim D-H, Choi YH, Cha H-J, Yoon D, Kim S, Kim H-S: Detection of LINE element and its expression analysis of OF-LINE Chr3-1 after infection with *S. parauberis* in the Olive flounder (*Paralichthys olivaceus*). *Genes Genom.* 2016, **38**(11): 1105-1110.
- [22] Nam G-H, **Gim J-A**, Lee H-E, Kim W-J, Jung H, Kim W, Kim H-S: Expression and promoter activity of endogenous retroviruses in the Olive flounder (*Paralichthys olivaceus*). *Genes Genom.* 2015, **38**(6): 539-545.
- [21] Jeong H, Lee K, Choi B-H, Lee H-E, **Gim J-A**, Lee D-H, Ha J-H, Han K-I, Cho Y, Kim H-S: Statistical modeling for selecting a superior working dog using microsatellite loci. *Genes Genom.* 2015, **37**(11): 969-976.
- [20] Kim Y-J, Ahn K, **Gim J-A**, Oh MH, Han K, Kim H-S: Gene structure variation in segmental duplication block C of human chromosome 7q 11.23 during primate evolution. *Gene* 2015, **573**(2): 285-295.
- [19] Jeong H, Choi B-H, Lee H-E, **Gim J-A**, Kim H-S: Microsatellite analysis of genetic variation and structure in Korean and exotic dog breeds. *Genes Genom.* 2015, **37**(10): 819-827.
- [18] **Gim J-A**, Han K, Kim H-S: Identification and Expression Analysis of Human Endogenous Retrovirus Y (HERV-Y) in Various Human Tissues. *Arch. Virol.* 2015, **160**(9): 2161-2168.
- [17] Lee H-E, Choi B-H, Lee D-H, Kwon Y-J, Eo J, Choi Y, Jeong H, **Gim J-A**, Kim T-H, Ha J-H *et al.*: Polymorphism analysis of tyrosine hydroxylase gene variable number of tandem repeats in various Korean dogs. *Genes Genom.* 2015, **37**(3): 257-261.
- [16] **Gim J-A***, Hong CP*, Kim D-S, Moon J-W, Choi Y, Eo J, Kwon Y-J, Lee J-R, Jung Y-D, Bae J-H *et al.*: Genome-wide Analysis of DNA Methylation before- and after Exercise in the Thoroughbred Horse with MeDIP-Seq. *Mol. Cells* 2015, **38**(3): 210-220.
- [15] **Gim J-A***, Lee S*, Kim D-S*, Jeong K-S, Hong C, Bae J-H, Moon J-W, Choi Y-S, Cho B-W, Cho H-G *et al.*: HEPD: a database describing epigenetic differences between Thoroughbred and Jeju horses. *Gene* 2015, **560**(1): 83-88.
- [14] Kim J, Jeong D, Nam J, Aung TN, **Gim J-A**, Park KU, Kim S-W: MicroRNA-124 regulates glucocorticoid sensitivity by targeting phosphodiesterase 4B in diffuse large B cell lymphoma. *Gene* 2015, **558**(1): 173-180.
- [13] **Gim J-A***, Lee S*, Kim D-S*, Jeong K-S, Hong C, Bae J-H, Moon J-W, Choi Y-S, Cho B-W, Cho H-G *et al.*: HExDB: a database for epigenetic changes occurring after horse exercise. *Genes Genom.* 2015, **37**(3): 287-294.
- [12] Jeong, H., Choi, B.-H., Eo, J., Kwon, Y.-J., Lee, H.-E., Choi, Y., **Gim, J.-A.**, Kim, T.-H., Seong, H.-H., and Lee, D.-H. Statistical analysis and genetic diversity of three dog breeds using simple sequence repeats. *Genes Genom* 2014, **36**(6): 883-889.
- [11] Jeong K-S, Kim M, Jo H, **Gim J-A**, Kim D-K, Joo G-J: Search of optimal locations for species-or group-specific primer design in DNA sequences: Non-dominated Sorting Genetic Algorithm II (NSGA-II). *Ecol. Inform.* 2015, **29**:214-220.
- [10] **Gim JA**, Ayarpdikannan S, Eo J, Kwon YJ, Choi Y, Lee HK, Park KD, Yang YM, Cho BW, Kim HS: Transcriptional expression changes of glucose metabolism genes after exercise in thoroughbred horses. *Gene* 2014, **547**(1):152-158.
- [9] Lee JR, Hong CP, Moon JW, Jung YD, Kim DS, Kim TH, **Gim JA**, Bae JH, Choi Y, Eo J *et al.*: Genome-wide analysis of DNA methylation patterns in horse. *BMC Genomics* 2014, **15**(1):598.
- [8] Jo H, **Gim JA**, Jeong KS, Kim HS, Joo GJ: Application of DNA barcoding for identification of freshwater carnivorous fish diets: Is number of prey items dependent on size class for *Micropterus salmoides*? *Ecol. Evol.* 2014, **4**(2):219-229.
- [7] Eo J, **Gim J-A**, Choi B-H, Park K-D, Yang Y-M, Lee H-K, Do K-T, Cho B-W, Kim H-S: Genetic profiling of thoroughbred racehorses by microsatellite marker analysis. *Genes Genom* 2014, **36**(1):119-123.
- [6] Kwon Y-J, Choi B-H, Eo J, Kim C, Jung Y-D, Lee J-R, Choi Y, **Gim J-A**, Lee D-H, Ha J-H: Genetic structure and variability of the working dog inferred from microsatellite marker analysis. *Genes Genom* 2014, **36**(2):197-203.

- [5] Yoon S-L, Jeong Y, Kim H-S, Ahn E-K, Seol S-Y, Lee S-Y, Roh Y-G, **Gim J-A**, Hwang SY, Kang T-H: Conservation of intronic minisatellite polymorphisms in the SCK1/SHC2 gene of Hominidae. *Genes Genom* 2014, **36**(3):375-385.
- [4] Ahn K, **Gim JA**, Ha HS, Han K, Kim HS: The novel MER transposon-derived miRNAs in human genome. *Gene* 2013, **512**(2):422-428.
- [3] Ahn K, Bae J-H, **Gim J-A**, Lee J-R, Jung Y-D, Park K-D, Han K, Cho B-W, Kim H-S: Identification and characterization of transposable elements inserted into the coding sequences of horse genes. *Genes Genom* 2013, **35**(4):483-489.
- [2] Ha H-S, Moon J-W, **Gim J-A**, Jung Y-D, Ahn K, Oh K-B, Kim T-H, Seong H-H, Kim H-S: Identification and characterization of transposable element-mediated chimeric transcripts from porcine Refseq and EST databases. *Genes Genom* 2012, **34**(4):409-414.
- [1] Ha HS, Huh JW, **Gim JA**, Han K, Kim HS: Transcriptional variations mediated by an alternative promoter of the FPR3 gene. *Mamm. Genome* 2011, **22**(9-10):621-633.

<Domestic journal>

- [8] **Gim J-A**, Gim JS, Kim H-S: Analysis strategies of functional genomics in marine organisms [In preparation]
- [7] Kim H, **Gim J-A***, Woo H, Hong J, Kim J, Kim H-S: Application of Transposable Elements as Molecular-Marker for Cancer Diagnosis. *J. Life Sci.* [Submit]
- [6] **Gim J-A**, Kim H-S: Recent Strategy for Superior Horses. *J. Life Sci.* [Accept]
- [5] **Gim J-A***, Kim S-H*, Lee H-E, Jeong H, Nam G-H, Kim MK, Huh J-W, Choi B-H, Kim H-S: Quantitative Expression Analysis of Functional Genes in Four Dog Breeds. *J. Life Sci.* 2015, **25**(8):861-869.
- [4] **Gim J-A***, Ha H-S*, Ahn K*, Kim D-S, Kim H-S: Genome-Wide Identification and Classification of MicroRNAs Derived from Repetitive Elements. *Genom. Inform.* 2014, **12**(4): 261-267.
- [3] **Gim J-A**, Kim H-S: Development of an Economic-Trait Genetic Marker by Applying Next-Generation Sequencing Technologies in a Whole Genome. *J. Life Sci.* 2014, **24**(11):1258-1267.
- [2] Kwon YJ, Choi Y, Eo J, Noh YN, **Gim JA**, Jung YD, Lee JR, Kim HS: Structure and Expression Analyses of SVA Elements in Relation to Functional Genes. *Genom. Inform* 2013, **11**(3):142-148.
- [1] Kwon Y-J, Eo J, Choi B-H, Choi Y, **Gim J-A**, Kim D, Kim T-H, Seong H-H, Kim H-S: Bioinformatic Analysis of the Canine Genes Related to Phenotypes for the Working Dogs. *J. Life Sci* 2013, **23**(11):1325-1335.

IV. Awards

2016.08. (The Korean Society of Life Science)

Identification of Transposable Elements in jeju Horse from NGS Data

2016.02. (Brain Korea 21)

Oral Presentation Award: Epigenetic features and transposable elements in horse genome

2015.05. (College of Natural Sciences, Pusan National University)

Dean Award: Excellent research in college of natural sciences

2013.10. (The Korean Society of Life Science)

Changes of Expression and Epigenetic Profiles of Glucose metabolite Genes in the Thoroughbred Horses Blood after Exercise

2012.10. (The Korean Society of Life Science)

Functional Analysis of eca-miR-23a and 27a in Post Exercising Thoroughbred Racehorse

2012.06. (Asian Clinical Oncology Society)

MicroRNAs Originated from Transposable Elements in Colorectal Cancer

2012.02. (The Korean Society for Microbiology and Biotechnology)

Onco-miRNAs derived from transposable elements in colorectal cancer tissues

2011.08. (The Korean Association of Biological Sciences)

Inhibition Events of miRNAs Derived from Transposable Elements in Oncogenes and Tumor Suppressor Genes of Human

2010.10. (The Korean Society of Life Science)

Transcriptional regulation of SERPINB6 gene by various transposable element and CpG island during primate evolution

V. Research interests

(A) Experimental Biology

- Transposable elements; identification, expression, and functional study.
- Endogenous retrovirus; *in silico* analysis and confirm their expression.
- Comparative genomics; evolutionary study.
- MicroRNA; extraction, and expression.
- DNA methylation; epigenetic study.

(B) Bioinformatics

- Prediction of transposable elements
- NGS data analysis in DNA, RNA levels
- Machine learning using R

VI. Technical experience & Computer skills

(A) Molecular Biology

- Cloning techniques
- DNA, RNA, miRNA isolation
- Quantitative real time PCR analysis
- Cell culture, Luciferase reporter assay

(B) Bioinformatics

- RNAfold, RNAhybrid
- PHP5, MySQL
- Bioedit, MEGA5

(C) Bioethics

- IRB (Institutional Review Board) management
- CRF (Case Report Form) management
- Interpretation of "Enforcement Rule of Bioethics and Safety Act"