

Epigenetic regulation in maintenance of stemness of melanocyte stem cells in hair follicle

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Epigenetic regulation is necessary for normal development. Not only for development, it has crucial roles to maintain stemness of melanocyte. Usually melanocyte stem cells in hair follicle produce melanin for pigmented hair. If these stem cells lose melanin production, hair change into gray. To clarify epigenetic mechanisms, we compared melanocyte stem cells in gray hair follicle and those in pigmented hair follicle. We found dozens of genomic regions which DNA methylation status are different between gray hair follicle and pigmented hair follicle. These might cause critical change of related gene expression levels.