



Epigenetic regulation by BAF (mSWI/SNF) complexes in cortical neurogenesis

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Chromatin remodeling is an important regulator of developmental gene expression. The BAF (mammalian SWI/SNF) complexes are a family of multi-subunit ATP-dependent chromatin remodelers that use ATP hydrolysis to alter chromatin structure. Hundreds of distinct BAF complexes are predicted to form in vivo through combinatorial assembly of at least 15 identified BAF subunits. Integrated BAF complex subunits, which interact through composite surfaces with transcription factors and epigenetic factors, are essential for genome targeting and thus are responsible for conferring functional specificity. In my talk, I will discuss recent data in understanding of chromatin remodeling during neural development. I will highlight roles of chromatin remodeling SWI/SNF (BAF) complexes and their epigenetic cofactors in cortical neurogenesis.

Selected Publications

Bachmann C, Nguyen H, Rosenbusch J, Pham L, Rabe T, Patwa M, Sokpor G, Seong RH, Ashery-Padan R, Mansouri A, Stoykova A, Staiger JF, **Tuoc T.** (2016) mSWI/SNF (BAF) Complexes Are Indispensable for the Neurogenesis and Development of Embryonic Olfactory Epithelium. *PLoS Genet*, 12(9): e1006274.

Narayanan R, Pirouz M, Kerimoglu C, Pham L, Wagener RJ, Kiszka KA, Rosenbusch J, Seong RH, Kessel M, Fischer A, Stoykova A, Staiger JF, **Tuoc T.** (2015) Loss of BAF (mSWI/SNF) Complexes Causes Global Transcriptional and Chromatin State Changes in Forebrain Development. *Cell Rep*, 2015 13(9): 1842-1854.

Tuoc TC, Boretius S, Sansom SN, Pitulescu ME, Frahm J, Livesey FJ, Stoykova A. (2013) Chromatin regulation by BAF170 controls cerebral cortical size and thickness. *Dev Cell*, 25(3): 256-269.