

The chromatin modifying complex CoREST/LSD1 negatively regulates notch pathway during cerebral cortex development

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© 2016 Wiley Periodicals, Inc. The development of the cerebral cortex is a dynamic and coordinated process in which cell division, cell death, migration, and differentiation must be highly regulated to acquire the final architecture and functional competence of the mature organ. Notch pathway is an important regulator of differentiation and it is essential to maintain neural stem cell (NSC) pool. Here, we studied the role of epigenetic modulators such as lysine-specific demethylase 1 (LSD1) and its interactor CoREST in the regulation of the Notch pathway activity during the development of the cerebral cortex. We found that CoREST and LSD1 interact in vitro with RBPJ-? in the repressor complex and these proteins are released upon overexpression of Notch intracellular domain (NICD). We corroborated LSD1 and RBPJ-? interaction in developing cerebral cortex and also found that LSD1 binds to the hes1 promoter. Knock-down of CoREST and LSD1 by in utero electroporation increases Hes1 expressi