

# **10. Identification of new human mastermind proteins defines a family that consists of positive regulators for Notch signaling**

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摘要

## **Abstract**

Mastermind (Mam) is one of the evolutionarily conserved elements of Notch signaling. Genetic analyses in *Drosophila* implicated it as an important positive regulator of the pathway. We show here identification of two new members of human Mam family (human Mastermind-2 (hMam-2) and human Mastermind-3 (hMam-3)), which retain characteristics similar to human Mastermind-1 (hMam-1) and *Drosophila* Mastermind. Both hMam-2 and hMam-3 stabilize and participate in the DNA-binding complex RBP-J/CBF-1 protein and the Notch intracellular domains that serve as intermediates of the signaling. Both hMam-2 and hMam-3 enhanced the activation of transcription from a target promoter by Notch signaling. However, we also show evidence that the activation of the target promoter by Notch3 and Notch4 is more efficiently potentiated by hMam-2 than by hMam-1 or -3. The multiplicity of Mam proteins in the mammalian system may help provide divergence to the strength of the Notch signals in different cell types.