

Anti-RBPJ Antibody serum, from rabbit

Art. ID SAF-ABE384

Unit EA

Description

Recombining binding protein suppressor of hairless (UniProt: Q06330, also known as CBF-1, Immunoglobulin kappa J region recombination signal binding protein 1, J kappa-recombination signal-binding protein, RBP-J, RBP-JK, RBP-J kappa, Renal carcinoma antigen NY-REN-30) is encoded by the RBPJ (also known as AOS3, CBF1, IGKJRB, IGKJRB1, KBF2, RBPJK, RBPSUH, SUH) gene (Gene ID: 3516) in human. RBP-J is a transcriptional regulator that plays a key role in Notch signaling. Acts as a transcriptional repressor when it is not associated with Notch proteins. It associates with several transcriptional co-repressors in the absence of Notch intracellular domain (NICD). Upon activation, following cleavage by gamma-secretase, NICD translocates to the nucleus and forms a transcriptional activation complex with RBPJ. This complex in turn recruits other co-activators and complex components, leading to regulated target gene expression. Genome-wide ChIP-seq profiling reveals both overlapping and non-overlapping chromatin-binding sites occupied by RBPJ and Notch1. Murine RBPJ-only sites are shown to be highly enriched for imputed REST (a DNA-binding transcriptional repressor) sites, whereas human RBPJ-only sites lack REST motifs and are more enriched for imputed CREB sites. Dysregulated RBPJ-dependent gene expression is seen in B-cell tumors associated with Epstein-Barr virus (EBV) and a majority of T-lymphoblastic leukemia/lymphoma (TLL) tumors having somatic Notch1 gain-of-function mutations.