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Articles of Significant Interest in This Issue

Immunoglobulin Class Switch Recombination Is Initiated by Rare Cytosine Deamination Events at Switch Regions

Kim et al. (e00125-20) delineated the residues targeted by activation-induced cytodine deaminase (AID) within an entire switch region (AID footprints) in a mouse B cell line undergoing robust class switch recombination (CSR). As expected, AID was shown to deaminate cytosines predominantly within WRC hot spots; both the top and bottom DNA strands were equally targeted. By examining individual alleles, the authors further revealed AID footprints to be rare and mostly distally located. Still, the frequency of molecules containing AID footprints on both DNA strands correlated well with the CSR efficiency. This finding likely reflects a minimal requirement for DNA double-strand break formation.

Insulin Growth Factor 2 mRNA Binding Protein Is a Negative Regulator of Apolipoprotein Metabolism

Maintaining proper apolipoprotein homeostasis requires multiple ATPase-binding cassette proteins that include ABCA1, which plays an important role in high-density apolipoprotein biogenesis. Yang et al. (e00058-20) identify insulin growth factor 2 mRNA binding protein 2 (IGF2BP2) as a negative regulator of ABCA1 mRNA expression. They show that IGF2BP2 is part of a complex containing the AGO2 RISC endonuclease and microRNAs 33a and 33b, which together bind to the 3′ untranslated region of *ABCA1* mRNA and inhibit its transcription. They demonstrate that mice overexpressing human IGF2BP2 have severe defects in overall apolipoprotein homeostasis. This work increases our understanding of how apolipoprotein metabolism is regulated at the molecular level.

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