



Figure 6. Spatial regulation and IGCR1-mediated control of *IgH* recombination in early B-lymphopoiesis. (A) Reversible *IgH* contraction. The *IgH* locus is in an extended configuration in uncommitted progenitors, which allows D_H-J_H recombination to take place in the proximal domain. In pro-B cells, all 200 V_H genes participate in V_H-DJ_H rearrangements because of contraction of the *IgH* locus by looping. The V_H genes of the incompletely rearranged *IgH* allele are no longer available for V_H-DJ_H recombination because of decontraction in pre-B cells. (B) Control of *IgH* recombination by the IGCR1 insulator. See Chapter 4.6 for detailed description how the IGCR1 region controls the order of V(D)J recombination at the *IgH* locus. CTCF-binding regions (CBEs) are symbolized by red arrowheads. A brick wall indicates that the IGCR1 insulator restrains loop formation and recombination to the proximal *IgH* domain in uncommitted lymphoid progenitors. In pro-B cells, the IGCR1 element is neutralized by a so-far unknown mechanism, and locus contraction promotes V_H-DJ_H rearrangements. 3'RR, 3' regulatory region; E_{μ} , intronic enhancer.