



Figure 6. Imprinted Expression Is Regulated by Gametic DMRs

Left panel shows the effect of deleting the gametic DMR from the imprinted chromosome (*green*). Right panel shows the effect of deleting the gametic DMR from the non-imprinted chromosome (*yellow*). In many imprinted clusters (e.g., *Igf2r*, *Kcnq1*, and *Dlk1*), experimental deletion of the G-DMR only affects the chromosome carrying the non-imprinted G-DMR. This results in a loss of repression of the imprinted protein-coding mRNA genes (IG) and a gain of repression of the imprinted ncRNA gene (IG-NC). Note that in some imprinted clusters (*Igf2* and *Pws*) that are not illustrated here, the methylated G-DMR appears also to be required for expression of some of the imprinted mRNAs *in cis*. (del) Deleted DNA, (G-DMR) gametic differentially DNA-methylated region, (NG) non-imprinted gene, (*arrow*) expressed allele, (*black stop sign*) repressed allele, (IMPRINT) epigenetic modification leading to a change in gene expression *in cis*.