## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

**Description:** The list and sequences of primers used for qPCR, semi-qPCR, ChIP-qPCR, and PCR.

File Name: Supplementary Data 2

**Description:** The list and sequences of sgRNAs.

File Name: Supplementary Data 3

**Description:** The list and sequences of shRNAs.

File Name: Supplementary Data 4

**Description:** Information on dental pulp-derived primary hMSCs.

File Name: Supplementary Data 5 (corresponding to Supplementary Figure 3c)

**Description:** The list of differentially expressed miRNAs between WT and DR8<sup>dex2</sup> hMSCs.

File Name: Supplementary Data 6

**Description:** The list of interacting proteins of DGCR8 identified by mass spectrometry.

File Name: Supplementary Data 7 (corresponding to Figure 8b)

**Description:** The list of downregulated and upregulated genes by RNA-seq of non-invasive mouse joints and ACLT joints treated with lentiviruses expressing DR8-WT or DR8-mtDRBD, compared with ACLT joints treated with lentiviruses expressing Luc.