Association of high 5-hydroxymethylcytosine levels with Ten Eleven Translocation 2 overexpression and inflammation in Sjögren's syndrome patients

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Here, we determined the 5-hydroxymethylcytosine (5hmC), 5-methylcytosine (5mC), Ten Eleven Translocation (TETs), and DNA methyltransferases (DNMTs) levels in epithelial and inflammatory cells of labial salivary glands (LSG) from Sjögren's syndrome (SS)-patients and the effect of cytokines on HSG cells. LSG from SS-patients, controls and HSG cells incubated with cytokines were analysed. Levels of 5mC, 5hmC, DNMTs, TET2 and MeCP2 were assessed by immunofluorescence. In epithelial cells from SS-patients, an increase in TET2, 5hmC and a decrease in 5mC and MeCP2 were observed, additionally, high levels of 5mC and DNMTs and low levels of 5hmC were detected in inflammatory cells. Cytokines increased TET2 and 5hmC and decreased 5mC levels. Considering that the TET2 gene.promoter contains response elements for

transcription factors activated by cytokines, together to in vitro results suggest that changes in DNA hydroxymethylation, resulting from altered levels of TET2 are l