MMP1 and MMP10 but not MMP12 are potential oral cancer markers

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Abstract

The aim of this study was to investigate the mRNA performance of matrix metalloproteinases (MMP) 1, MMP10 and MMP12 as oral cancer markers. With gingiva as the control, the areas under the receiver- operating characteristic curves (AUCs) of the relative gene expressions for MMP1, MMP10 and MMP12 were 0.715, 0.727 and 0.513, respectively. With the margins or neck platysma muscles as controls, the AUCs of MMP1, MMP10 and MMP12 were 0.746 vs 0.626, 0.712 vs 0.683 and 0.697 vs 0.630, respectively. MMP10 displayed the best sensitivity for oral cancer detection with any controls. MMP1 and MMP10 were suitable markers for cancer detection with gingiva and margin as controls. Using neck tissue as the control, only MMP10 was suitable for cancer detection. With margin and neck controls, there were no significant differences for MMP1, MMP10 and MMP12 in different stages, invasion and locations or different habits. Therefore, MMP1 and MMP10 but not MMP12 are potential oral cancer markers.