CONTENTS

Electro-gene therapy in a human oral tongue cancer cell by intratumoral injection of pcDNA3.1-p27\textsuperscript{wt}

A comparison of three dimensional change in maxillary complete dentures between conventional heat polymerizing and microwave polymerizing techniques

Molecular study of the dentin-pulp complex responses to caries progression

Effect of combination antiretroviral therapy on the frequency of oral candidiasis in HIV/AIDS patient

U bow activator, an alternative functional orthodontic appliance

Chronic periodontitis as an etiology of sleep disturbances and premenstrual syndrome (PMS)

Closure of oroantral fistula with rotational palatal flap technique

The effect of Hegu acupoint stimulation in dental acupuncture analgesia

Oral and dental management in children with tetralogy of fallot

Understanding about the classification of pulp inflammation

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<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Effect of combination antiretroviral therapy on the frequency of oral candidiasis in HIV/AIDS patient</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Oral and dental management in children with tetralogy of fallot</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>Understanding about the classification of pulp inflammation</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Electro-gene therapy in a human oral tongue cancer cell by intratumoral injection of pcDNA3. <em>-p27Kip</em> <em>wt</em></td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Molecular study of the dentin-pulp complex responses to caries progression</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>A comparison of three dimensional change in maxillary complete dentures between conventional heatpolymerizing and microwave polymerizing techniques</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>U bow activator, an alternative functional orthodontic appliance</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>Closure of oroantral fistula with rotational palatal flap technique</td>
<td>-</td>
</tr>
<tr>
<td>9</td>
<td>Chronic periodontitis as an etiology of sleep disturbances and premenstrual syndrome (PMS)</td>
<td>-</td>
</tr>
<tr>
<td>10</td>
<td>The effect of Hegu acupoint stimulation in dental acupuncture analgesia</td>
<td>-</td>
</tr>
<tr>
<td>11</td>
<td>Placement of fin type dental implant in three different surgical situations of alveolar bone</td>
<td>-</td>
</tr>
</tbody>
</table>
Electro-gene therapy in a human oral tongue cancer cell by intratumoral injection of pcDNA3.1-p27Kip_ wt

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Abstract

Oral tongue cancers are characterized by a high degree of local invasion and a high rate of metastases to the cervical lymph nodes. Also, treatment options for this cancer are limited. However, a new strategy for refractory cancer, gene therapy is watched with keen interest. Recently, a novel method for high-efficiency and region-controlled in vivo gene transfer was developed by combining in vivo electro-gene therapy and intratumoral plasmid DNA injection. In the present study, a nonviral gene transfer system, in vivo electro-gene therapy in human oral tongue cancer cell, SP-C1 xenograft was examined. The aim of the study is to examine the efficiency of transfection of exogenous p27Kip1 gene by electroporation and the antitumor activity of p27Kip1 gene therapy in human oral tongue cancer xenografts using pcDNA3.1-p27Kip1 wild type (wt) and pcDNA3.1 empty vector with the local application of electric pulses. To evaluate this in vivo gene transfer method, the enhanced green fluorescence protein (EGFP) gene was transfected into xenografts by electroporation. The efficiency of transfection of exogenous p27Kip1 gene by electroporation was confirmed by Western blotting analysis. To estimate the reduction of oral tongue cancer xenografts by this method, the size of SP-C1 xenografts in nude mice after electroporation with wild type p27Kip1 gene was measured. The growth of tumors was markedly suppressed by wild type p27Kip1 gene transfection by electroporation compared with transfection of empty vector only. Moreover, histological specimens revealed apoptotic cell death was increased in wild type p27Kip1-transfected tumors than empty vector. These results suggest that it is possible to transfer wild type p27Kip1 into human oral tongue cancer xenografts using electroporation. Wild type p27Kip1 has a high-potentially to suppress the growth of tumors. Finally, combinations system of pcDNA3.1-p27Kip1 wt-injected tumor and electroporation might be used for human oral cancer.

Keyword : intratumoral, wild, type, p27Kip1, human, oral, tongue, cancer, electroporation, ,

Daftar Pustaka :


24. **Sukharev, (1992).** Electroporation and electroporetic DNA transfer into cells: the effect of DNA interaction with electropores. - : Biophys Journal


27. **Chernomordik, (1995).** Electroporation and electroporetic DNA transfer into cells: the effect of DNA interaction with electropores. - : Biophys Journal
