

AAO Foundation Award Final Report

Principal Investigator	James Mah
Co-Investigator	Dr. Thomas Lee
Secondary Investigators	Dr. Cedric Minkin
Award Type	Orthodontic Faculty Development Fellowship
Project Title	“Phosphorylated Proteins of the Dental Root and their Role in Osteoclastic Recognition and Activity”
Project Year	2000
Institution	University of Southern California
Summary/Abstract	<p>The purpose of this research was to explore an alternative cause of apical root resorption. We hypothesized that dentin is not a uniform tissue and that the apex is more readily recognized by osteoclasts and therefore resorbed more readily. We found that dentin phosphoproteins (DPPs) from the <u>apical</u>, <u>middle</u> and <u>coronal</u> regions of the roots of human premolars contain different molecular weight species of DPPs as determined by gel electrophoresis. We also found that osteoclasts will attach to dentin from all three regions of the tooth root and while there was a trend for more resorptive activity at the apical third this difference was not statistically significant. Experiments are currently underway to further explore these differences.</p>