

IREC ROTATION APPROVAL FORM

Name of Student:

BU ID:

E-mail Address:

Telephone:

Class:

Training Dates:

Mentor:

Title of Project:

- ☐ IREC 1 will be graded by the end of the Apex research rotation
- ☐ IREC 2 will be graded by the end of DMD year 2
- ☐ IREC 3 will be graded by the end of DMD year 3

Student's signature _____

Apex office signature _____ (IREC 1 only)

Mentor: I understand that this research project will be financed by resources available to me.

I agree to the block of times:

- ☐ 1-
- ☐ 2-
- ☐ 3-

Mentor's signature _____

Research Outline

SAMPLE

Goal

To determine the role of monocyte chemoattractant protein-1(MCP-1) in the formation of lesions of endodontic origin.

Rationale:

Inflammation resulting from tissue injury or exposure to pathogenic stimuli are known to cause release of inflammatory mediators. The release of one of these mediators, IL-1, subsequently stimulates the osteoblasts to express the monocyte chemoattractant protein-1(MCP-1) gene. In several studies, MCP-1 has been documented to attract monocytes, memory T-lymphocytes, and natural killer cells. In models of inflammation, MCP-1 deficient mice were unable to recruit monocytes, suggesting that MCP-1 plays an integral and unique role in attracting monocytes to the sites of inflammation. The expression of this gene has been documented in several disorders characterized by mononuclear infiltrates, and has been shown to contribute to the inflammatory component of these diseases. In this study, we will determine the functional significance of the expression of MCP-1 as related to the lesions of endodontic origin.

Specific Aims:

In this study, we will examine the effect of MCP-1 deletion in transgenic mice on endodontic lesion as measured by three factors:

- 1) The size of the lesion
- 2) The recruitment of monocytes
- 3) The induction of osteoclast activity.