

# Licensing Opportunity

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## MCPIP, A Novel Target for Therapeutic Intervention in Heart Disease

### Background

Among the leading causes of mortality worldwide - cardiovascular disease, diabetes, stroke, cancer, and a variety of other diseases - many are, at least in part, caused by the body's own inflammatory response. Ischemic heart disease, for example, is the leading cause of death in the United States. Ischemic disease has been associated with elevated markers of inflammation, and certain pro-inflammatory molecules are proposed to play a role in development of the disease state.

UCF researchers have identified a novel transcription factor called MCPIP (MCP-1-Induced protein), which was initially isolated from human monocytes after stimulation with MCP-1 (Monocyte chemoattractant protein-1). MCPIP is expressed in monocytes, vascular endothelial cells, and cardiac myocytes and up-regulates members of the apoptotic gene family involved in the induction of cell death. MCP-1 induces cell death in cardiomyoblast cell line H9C2 via activation of MCPIP. Regulation of MCPIP may be a therapeutic option for prevention or treatment of disease.

### Invention

A novel protein, designated MCPIP (MCP-Induced protein), has been shown to be elevated in human heart tissue with ischemic heart disease.

### Application

A possible drug target for therapeutic intervention in heart disease.

### Advantages

- MCPIP has been shown to be involved in development of ischemic heart disease in animal models and human cardiac tissue.
- Because MCPIP induces expression of a variety of genes in response to MCP-1, MCPIP activation, over-expression, gene transfer, protein delivery, inhibition of activation, gene-knockout, inhibition by siRNA, and inhibition of nuclear localization, could represent therapeutic opportunities for the treatment of various cardiovascular diseases.

### Lead Inventor

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### Selected References

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