ROLE OF THE MESENCHYMAL STEM CELLS IN THE AIRWAY REMODELING IN ASTHMA.

INTRODUCTION

DEFINITION
Asthma is a chronic inflammatory disease of the airways resulting in variable airflow obstruction, airway hyperresponsiveness (AHR) and airway remodeling. It causes recurrent attacks of breathlessness, wheezing, chest tightness and cough particularly at night or in early morning which vary in severity and frequency from person to person.

PATHOPHYSIOLOGY

TREATMENT

HYPOTHESIS
In an in vitro model of asthma induced by CD4+, the human MSCs derived from adipose tissue could reduce the remodeling of smooth muscle cells.

OBJECTIVES
To analyze by in vitro model, the effect of the MSCs in the remodeling of the smooth muscle of airway cells induced by TCD4+ and determine if such an effect depends on the direct contact between cells or of soluble factors released by the MSCs.

MATERIAL AND METHODS

CELL LINES AND ELL CULTURE

CELL LINES

HUMAN BLOOD PRIMARY CULTURE:

OBJECTIVE 1: ASM/TCD4 CO-CULTURE

OBJECTIVE 2: ASM/TCD4/MSC CO-CULTURE

FUTURE EXPECTATIONS

REFERENCES
Moore WC, et.al. (2010); Carole Ober et.al. (2011); Bateman ED et.al. (2008); Okawama Y, et.al. (2007); Gordon BR, (2008); Masoli M, et.al. (2004); WHO (2013); Global initiative asthma (2014); Boulet L-P (2009); Ulrik CS, et.al. (1999); Ramos-Barbón D, et.al (2010); Barnes PJ (2008); Polito AJ, et.al. (1998); Router S, et.al. (2010); Okawa Y, et.al. (2009); Steinke JW, et.al. (2001); Reuter S, et.al. (2010); Okayama Y, et.al. (2009); Steinke JW, et.al. (2001); Borja G. et.al. (2013); Nemeth K, et.al. (2010); Bonfield TL, et.al. (2010); Sroun N. (2014); Pabst R (2003); Kang XD, et.al. (2006); Le Blanc K, et.al. (2005); Carl A. Gregory, et.al. (2005); Bakh D, et.al. (2004); Figueroa FE, et.al. (2012); ATCC (2012); ATCC (2015); Lomonte B (2009); Ramos-Barbón D, et.al. (2015).