



ISAM 2011 Conference abstract

Title: A NOVEL INHALED DRY POWDER DELIVERY PLATFORM; EFFICACY OF FLUTICASONE AND SALMETEROL DURING ALLERGIC ASTHMA

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PURPOSE: Pulmatrix is developing a novel dry powder (DP) formulation with unique density and dispersibility characteristics (iSPERSE™). The aim of this study was to show the utility of this DP technology using a well described inhaled combination, salmeterol xinafoate (SX) and fluticasone propionate (FP) in models of allergic asthma.

METHOD: Two mouse models of allergic asthma were used: the ovalbumin (OVA) model and house dust mite (HDM) model. On the final 3 (HDM) or 4 (OVA) days of the study animals inhaled FP/SX treatment or placebo by whole body exposure. Specific airway resistance (sRaw) was determined by dual chamber plethysmography and was collected at baseline and during methacholine (MCh) challenge following the final DP treatment. Whole lung lavage was performed for total and differential cell count determination.

RESULTS: In both mouse models SX/FP treatment resulted in decreased total inflammatory cells marked by reduced eosinophilia. Also, sRaw values were decreased (33% on average) across the range of MCh challenge.

CONCLUSIONS: We demonstrated efficacy of our novel DP delivery technology, where aerosol delivery of SX/FP reduced inflammation and airway hyperreactivity. This data supports the utility of iSPERSE technology, a potential platform for the efficient delivery of large drug masses across a range of patient populations.