**INTRODUCTION**

Etrasimod (APD334) is an orally administered, selective sphingosine 1-phosphate (S1P) receptor (LSSP) modulator in development for multiple immune-mediated inflammatory disorders, including a Phase 2 trial in atopic dermatitis (AD) that is expected to be initiated in 2019. LSSP is a cell-surface G protein-coupled receptor (GPCR) that has been shown to regulate lymphocyte egress from lymph nodes and dendritic cell trafficking.  

**METHODS**

**Experimental Design and Treatment Groups**

Beginning on Day 1, female BALB/c mice were orally dosed daily with the indicated treatments in phosphate buffered saline (PBS). Etrasimod doses were based on potency determined by previous in vivo studies. On Day 0 and 5, mice were sensitized with 1% fluoroscein isothiocyanate (FITC) in acetone: dichloromethane (ADC) on the hind flank skin, and subsequently challenged on the ear skin on Days 11, 12, and 13.

**RESULTS**

**Etrasimod Dose-Dependently Reduced Ear SkinThickness and Histopathological Score**

**Challenge Day 13: Cervical Draining Lymph Node**

**Etrasimod Reduced Dendritic Cell Influx into the Cervical Lymph Node**

**Etrasimod Similarly Reduced T Cells, B Cells, and Eosinophils in the Cervical Lymph Node**

**Challenge Day 13: Ear Skin**

**In the Ear Skin, Etrasimod Reduced T Cells, B Cells, and Eosinophils in a Dose-Dependent Manner**

**Challenge Day 13: Blood**

**Etrasimod Reduced Circulating White Blood Cells and Lymphocyte Frequency**

**ACKNOWLEDGMENTS**

Three studies were supported by Arena Pharmaceuticals, Inc. (San Diego, CA), and conducted by Anthony Bianco, PhD and his team at the University of North Carolina at Chapel Hill. Arena Pharmaceuticals, Inc. (San Diego, CA) also provided technical support.

**REFERENCES**


**DISCLOSURES**

CC, KK, and JA are employees of Arena Pharmaceuticals, Inc. *The dose-dependent reduction of infiltrating eosinophils in the skin correlated with a dose-dependent improvement in ear skin inflammation and histologic scoring following FITC challenge.*