Study Overview

Discovery Phase

Validation Phase

SNPs associated with extrapulmonary injury-related ARDS $(p \le 5E-04)$

Filtering criteria

n = 8

Stage II (Population I):

STAGE II

UW Cohort Caucasian **Trauma** 597 ALI cases

168 no ALI Illumiina 610Quad Age, ISS, APACHE II

Filtering criteria

SNPs replicating its association with ALI in Stage II [p $\leq 0.007 (0.05/8)$]

n = 1

STAGE III

Stage III:

Penn Cohort Caucasian

Trauma

74 ALI cases 150 no ALI Illumina 610Quad Age, ISS, APACHE III, blunt trauma, pRBC.



SNP rs324420 (FAAH gene) replicated its association with ALI in Stage II and Stage III $(p \le 0.05)$

MGH-Boston Cohort

Caucasian

Stage I:

- 417 ARDS cases (127 with pulmonary injury and 291 with pulmonary injury)
- 1,300 control (549 with extrapulmonary injury and 751 with pulmonary injury)
- IBC Chip; Illumina®, 29,483 SNP after QC
- Age, gender, APACHE III



SNPs associated with pulmonary injury-related ARDS (p ≤ 5E-04)

n = 17

Stage II (Population II):

ARDSnet/MGH Cohort Caucasian

Pneumonia/pulmonary sepsis

392 ARDS cases 446 no ARDS Illumina 610Quad Age, gender, top 6 principal components



SNP rs1190286 in *POPODC3* gene replicated its association with ARDS in Stage II $[p \le 0.003 (0.05/17)]$

Figure S1

