# Treatment With Reltecimod Significantly Reduces Inflammation in Mouse Model of Acute Pancreatitis

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## BACKGROUND

- Injury to pancreatic exocrine cells initiates both local and systemic inflammation.
- Systemic inflammation contributes significantly to distant organ injury.
- Acute lung injury (ALI) and acute respiratory distress syndrome (ARDS) are common complications.
- Therapeutic interventions, which can dampen systemic inflammatory response and protect distant organs are required.
- Reltecimod is a rationally designed synthetic decapeptide acting as CD28 co-stimulatory receptor antagonist.

## AIM

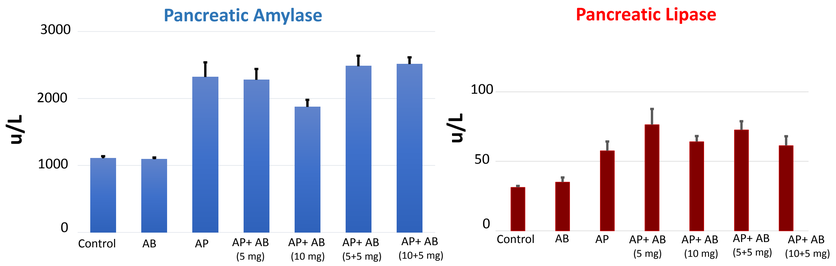
This study was designed to evaluate the efficacy of reltecimod in caerulein-induced acute pancreatitis (AP).

## METHODS

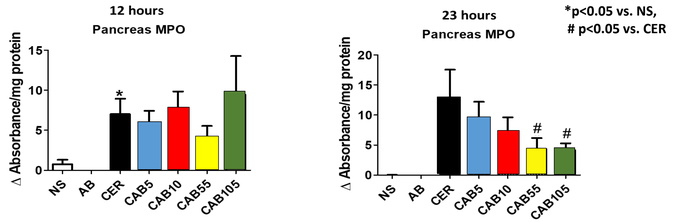
- Caerulein-induced AP (CER-AP) was triggered by hourly injections of Caerulein (50 µg/kg, i.p. x12) in BALB/c mice.
- In treatment group reltecimod (AB) (5mg/kg or 10mg/kg) was administered i.v. at initiation of injury concomitantly with first caerulein injection. In double dose (5+5mg or 10+5mg/kg) group, second dose was administered at 3h. Control group was administered saline only. Animals were euthanized 12 hours after last caerulein injection.
- Severity of pancreatitis was evaluated using pancreatic and lung histology. Neutrophil sequestration was determined by measuring tissue myeloperoxidase (MPO) activity.

## RESULTS

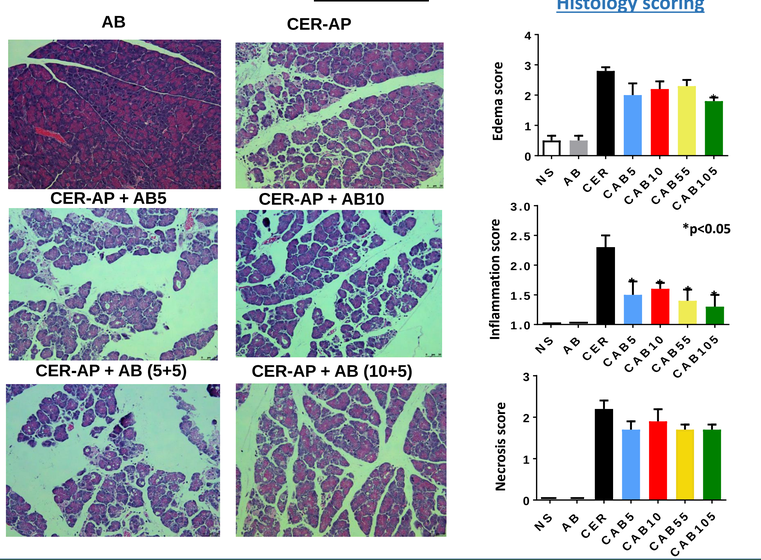
### A. There was no significant effect of treatment on plasma amylase or lipase activity in CER-AP



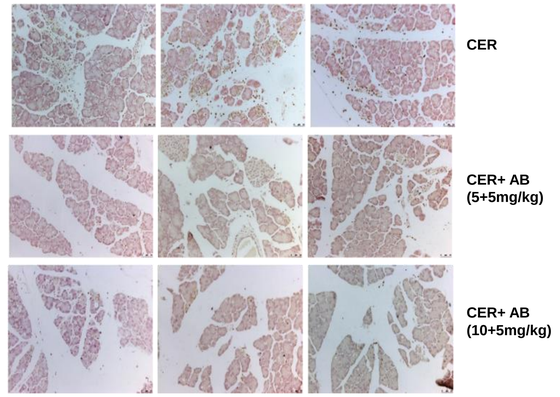

### B. Pancreatic MPO is significantly decreased in response to treatment at 23 hours.




### C. Pancreatic inflammation is significantly decreased in response to treatment.

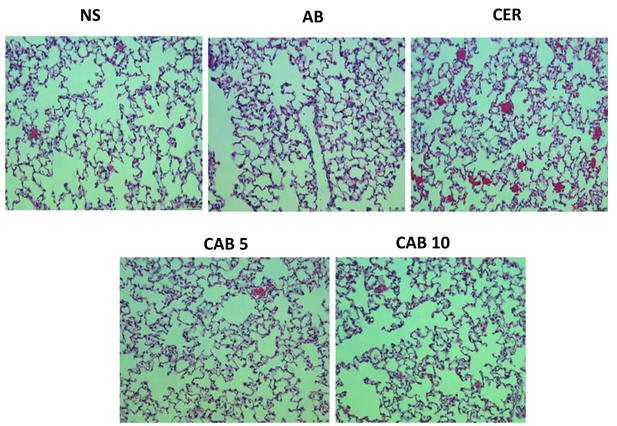


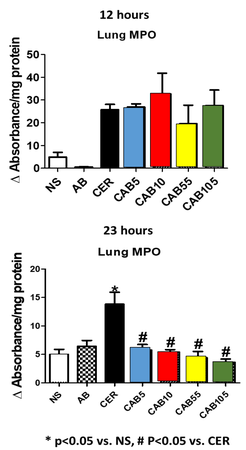

### D. There was significant reduction in sequestered inflammatory cells (coronin 1A positive) in response to treatment.




Reltcimod (AB) treatment significantly reduced sequestered neutrophils in pancreas at 23 hours.

### E. Lung histology (H&E) and inflammation significantly improved in CER-AP in response to treatment.




## CONCLUSION

- Reltecimod treatment resulted in substantial reduction of inflammation in caerulein-induced acute pancreatitis.
- This promising anti-inflammatory drug should be investigated further in more preclinical models of AP.

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