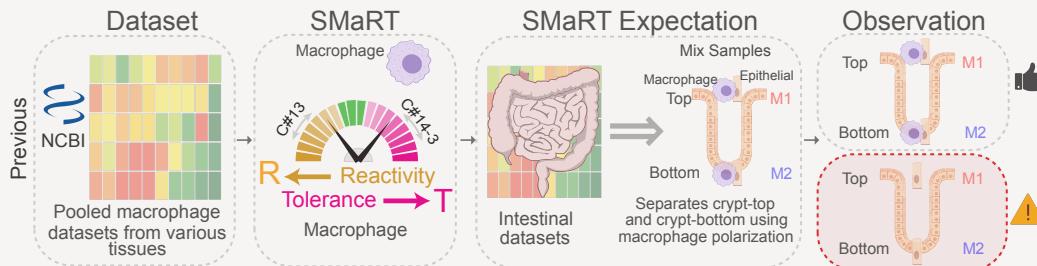
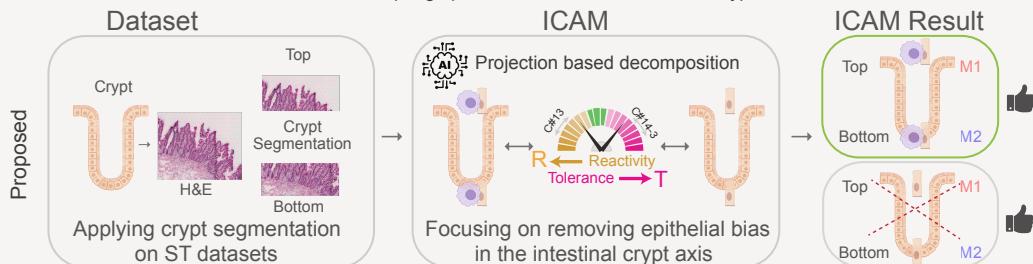


OVERVIEW:
SMaRT is expected to separate crypt-top and bottom using macrophage polarization (NO MAC = NO SEPARATION)

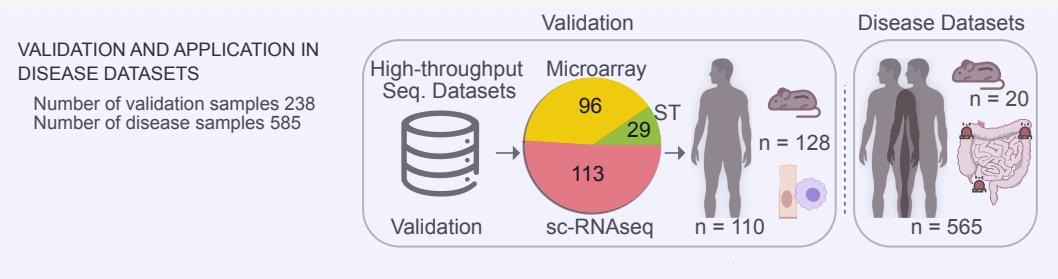


The Problem: SMaRT is not exclusive to macrophage polarization within the intestinal crypt



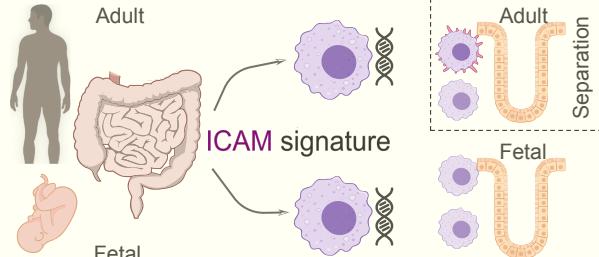
Proposed Solution:

Spatial Transcriptomics (ST) used to refined SMaRT for the intestinal crypt axis



KEY FINDINGS-I: ICAM REVEALS CRYPT-ASSOCIATED MACROPHAGE STATE DIFFERENCES IN ADULT INTESTINE

Adults show clear crypt-top vs. crypt-bottom separation by ICAM, while fetal samples show no separation.



KEY FINDINGS-II: DISEASE-ASSOCIATED SHIFTS IN THE ICAM SIGNATURE

IBD, infectious colitis, and CRC datasets, ICAM signature scores differ from healthy controls.

