

Supplementary Table S1. Exploratory Rule-Out Simulation

Exploratory rule-out simulation per 1,000 patients using the observed CPTAC-COAD MSI-H prevalence (24/105 = 22.9%) and the n=206-trained CONCH attention-MIL model after local threshold adaptation. Each repeat used 15 MSI-H and 30 MSS patients for threshold selection and evaluated the remaining 9 MSI-H and 51 MSS patients. This table is an exploratory workflow simulation and should not be interpreted as evidence of clinical safety or prospective deployment performance.

Metric	Median	p2.5	p97.5
MSI-H missed	25.4	0.0	101.6
True MSS ruled out	529.4	378.2	673.5
Tests avoided by rule-out	554.8	378.2	762.3
Tests still needed	445.2	237.7	621.8