

## Supplemental Information (2)

MICA-LDA algorithm performance on 100 trials of 50% HOCV and 10-fold CV

Dataset	Avg. classification rate $\pm$ std (%)	Avg. sensitivity $\pm$ std (%)	Avg. specificity $\pm$ std (%)
<b>50%HOCV</b>			
Stroma	85.39 $\pm$ 06.26	92.55 $\pm$ 06.88	70.29 $\pm$ 28.72
Breast_1	97.64 $\pm$ 01.50	98.03 $\pm$ 01.88	96.57 $\pm$ 03.74
Prostate	88.37 $\pm$ 06.87	84.90 $\pm$ 08.44	93.19 $\pm$ 09.65
Glioma	95.00 $\pm$ 11.25	93.33 $\pm$ 21.08	96.67 $\pm$ 10.54
HCC	84.17 $\pm$ 09.25	88.23 $\pm$ 11.44	76.76 $\pm$ 17.52
Breast_2	91.92 $\pm$ 04.17	90.91 $\pm$ 07.51	93.24 $\pm$ 05.10
<b>10-fold CV</b>			
Stroma	87.50 $\pm$ 14.39	89.17 $\pm$ 18.45	85.00 $\pm$ 33.75
Breast_1	98.14 $\pm$ 02.40	98.16 $\pm$ 02.96	98.33 $\pm$ 05.27
Prostate	93.52 $\pm$ 06.26	89.82 $\pm$ 07.99	98.33 $\pm$ 05.27
Glioma	95.00 $\pm$ 11.25	93.33 $\pm$ 21.08	96.67 $\pm$ 10.54
HCC	91.67 $\pm$ 11.79	90.00 $\pm$ 17.48	95.00 $\pm$ 15.81
Breast_2	93.78 $\pm$ 05.37	96.00 $\pm$ 08.43	91.00 $\pm$ 11.74