

High-Mannose N-Glycans as Malignant Progression Markers in Early-Stage Colorectal Cancer

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Supplementary Figure S1:

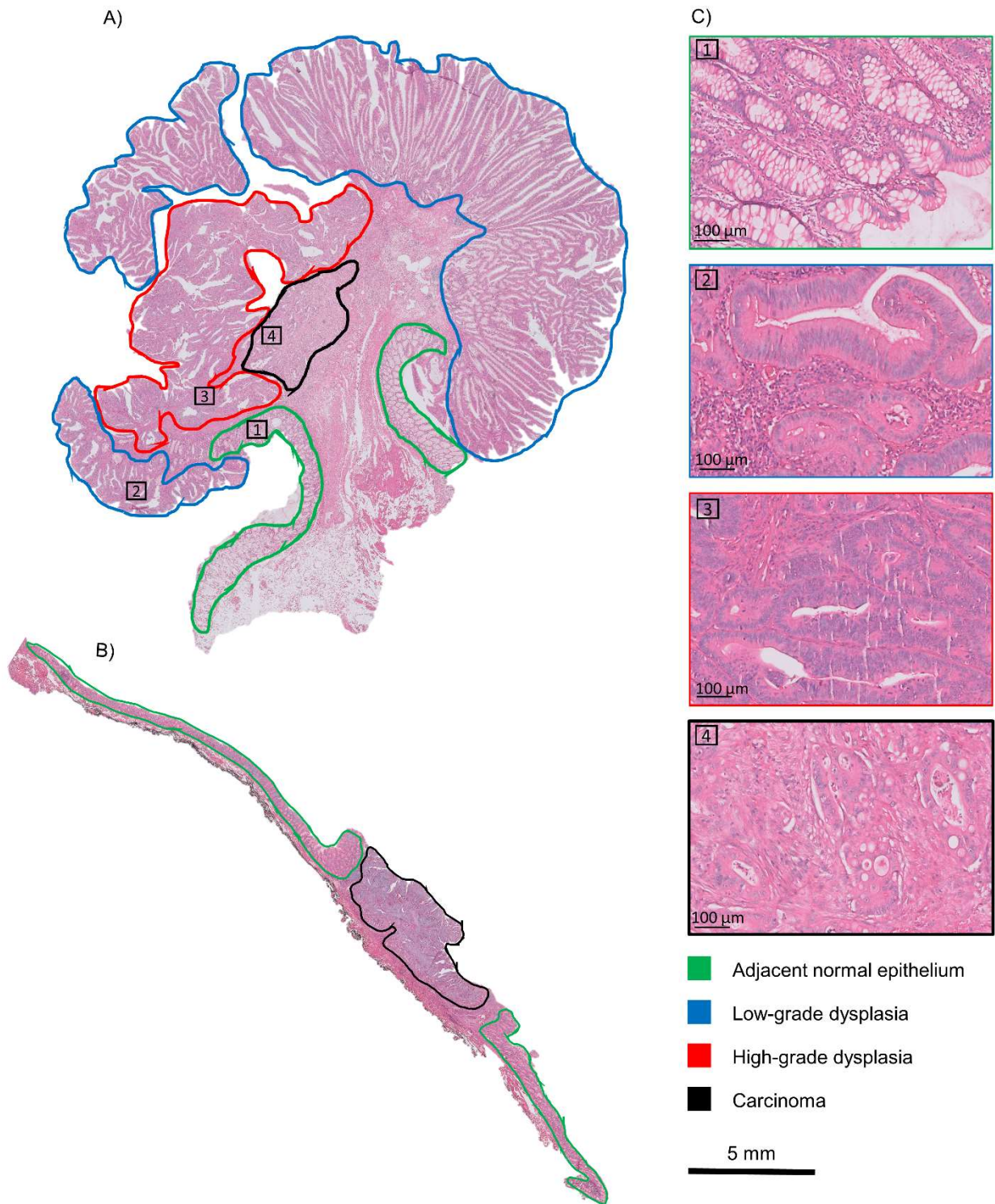


Figure S1. Annotated H&E stained CRC tissues. (A) & (B) Examples of post-MSI H&E stained human pT1 CRC tissues with annotations of morphological regions of interest. **(C)** Zoomed images (20x magnification) of different morphological areas annotated in the tissue (A).

Supplementary Figure S2:

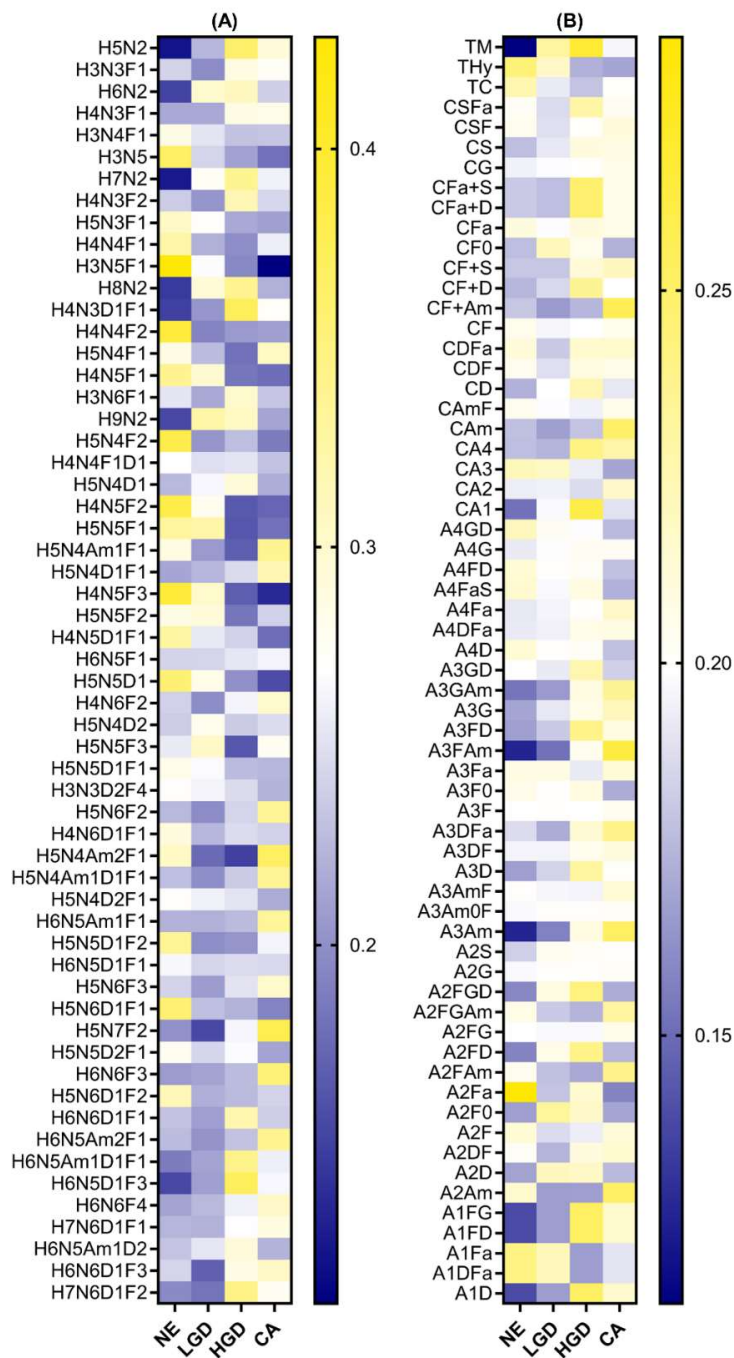


Figure S2. Relative changes of glycans and derived traits in early CRC development. Heatmap of the relative abundances of (A) individual *N*-glycan and (B) derived traits. The relative intensities have been averaged per morphology and scaled by the sum of each row for better visualization. NE = adjacent normal epithelium, LGD = low-grade dysplasia, HGD = high-grade dysplasia, CA = carcinoma. H: hexose, N: *N*-acetyl hexosamine, Am: α 2,3-linked *N*-acetyl neuraminic acid, D: α 2,6-linked *N*-acetyl neuraminic acid F: fucose.

Supplementary Figure S3:

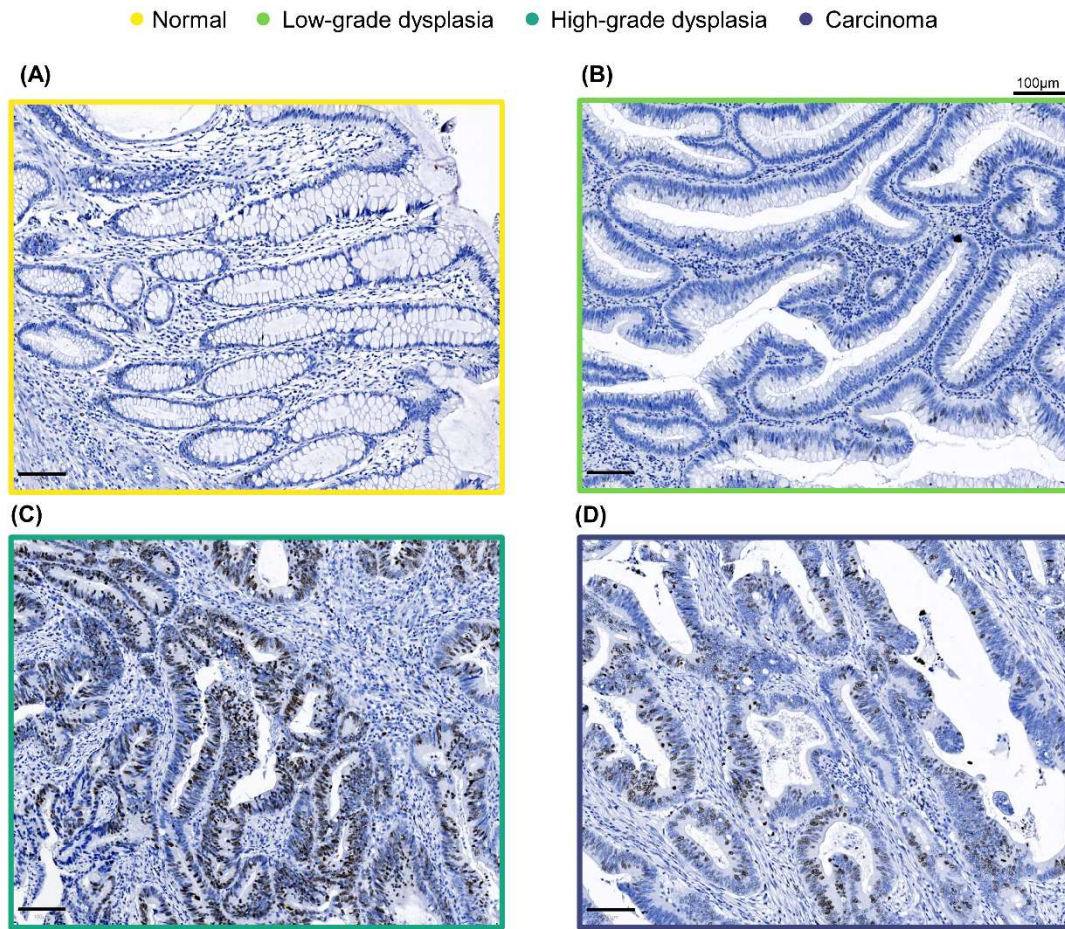


Figure S3. Ki-67 staining in different morphological stages of CRC progression. Immunohistochemistry of Ki-67 in selected regions of (A) normal adjacent epithelium (NE), (B) low-grade dysplasia (LGD), (C) high-grade dysplasia (HGD) and (D) carcinoma (CA).

Supplementary Figure S4:

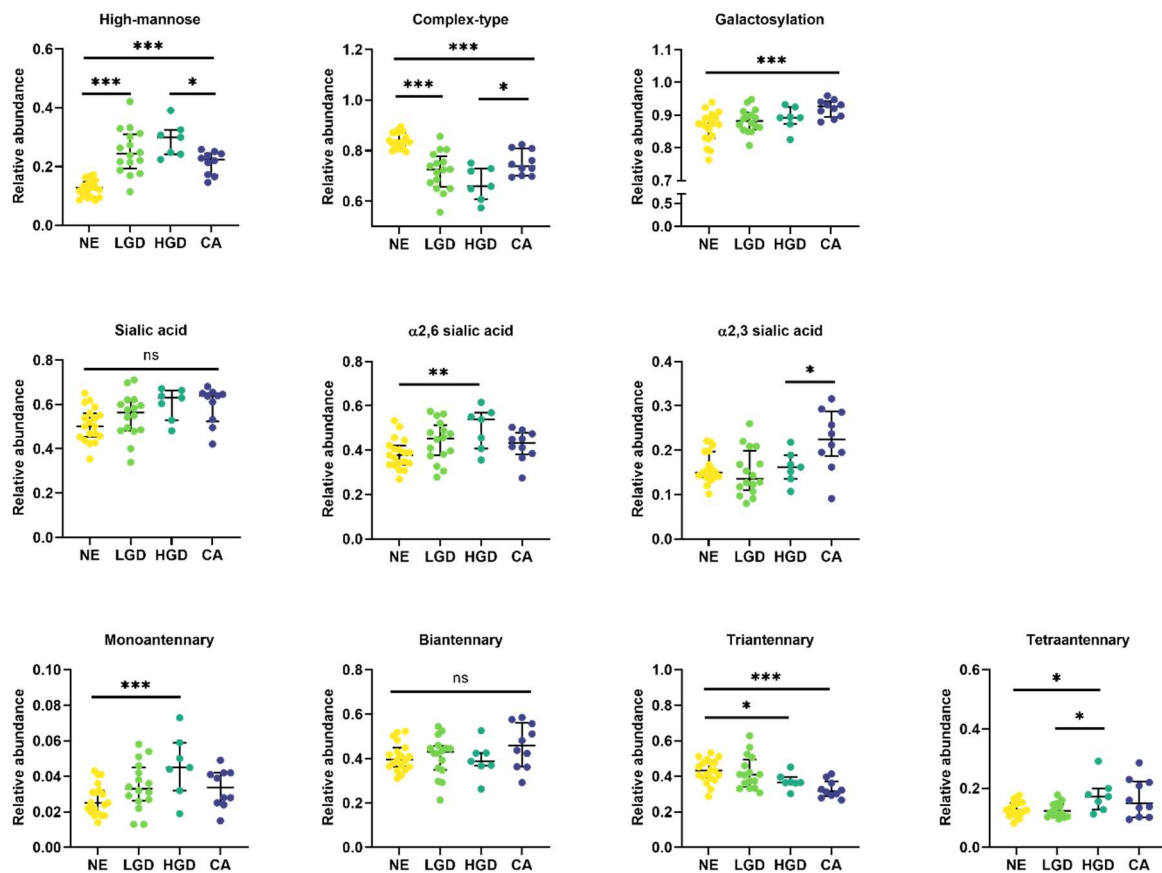


Figure S4. Glycomic changes between early stages CRC morphologies. Scatter plots of selected derived traits representing the median with interquartile range of the different morphologies per patient. NE = adjacent normal epithelium, LGD = low-grade dysplasia, HGD = high-grade dysplasia, CA = carcinoma. * = p-value ≤ 0.05 , ** = p-value ≤ 0.01 , *** = p-value ≤ 0.001 , ns = not significant.

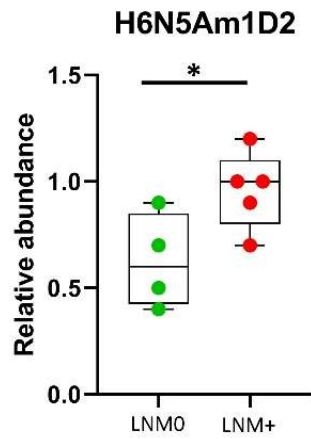


Figure S5. Glycan change between lymph node metastasis (LNM) status. Scatter plots of the glycan H6N5Am1D2 representing the median with interquartile range of LNM negative (LNM0) and positive (LNM+) patients. * = p-value ≤ 0.05