Supplemental figure 1

- 83D4
- 2A10
- 6E11
- 15G9
- 9A7

- MAG:Tn3(S'T'T')-PV
- MAG:Man3(S'T'T')-PV
- MAP-(STT)-PV
Supplemental figure 2

Control samples

α-N-acetylgalactosaminidase treated samples
**Supplemental figure 1.** Monoclonal antibodies were tested by ELISA for recognition of MAG glycopeptides with a cluster of $\alpha$-GalNAc (MAG :Tn3-PV) or $\alpha$-Mannose $O$-linked to the STT backbone (MAG :Man3-PV). The MAP-PV (KLFAVWKITYKDT) peptide corresponds to the unglycosylated variant.

**Supplemental figure 2.** Immunohistochemical reactivity of anti-Tn MAbs in breast tumors after $\alpha$-$N$-acetylgalactosaminidase treatment. Anti-Tn MAbs 83D4, 2A10, 6E11, 9A7, and 15G9 were probed against primary breast tumor samples after treatment with $\alpha$-$N$-acetylgalactosaminidase from chicken liver, which cleaves GalNAc from GalNAc$\alpha$-$O$-Ser/Thr. Control samples were incubated similarly in the absence of the enzyme. Staining intensity and immunohistochemical score assigned to each control sample were: 83D4 (3/270), 2A10 (2/150), 6E11 (2/180), 9A7 (3/300), and 15G9 (2/180).