

Electronic Supplementary Information

Rapid and Sensitive Glycan Targeting by Lectin-SERS Assay

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Table S1. Selected lectins for glycan profiling and the main carbohydrate binding specificities of each species.

Lectin Type	Carbohydrate Specificity	Raman Reporters with Spectral Peak
Wheat Germ Agglutinin (WGA)	N-acetyl-D-glucosamine (GlcNAc) /sialic acid (neuraminic acid, NeuAc)	4-mercaptobenzoic acid (MBA; 1075 cm ⁻¹)
Cholera Toxin B (CTB)	GM1 ganglioside	5,5'-dithiobis-(2-nitrobenzoic acid) (DTNB; 1334 cm ⁻¹)
<i>Aleuria aurantia</i> lectin (AAL)	Fucose linked (α -1,3) to N-acetyllactosamine	2,7-mercapto- 4-methylcoumarin (MMC;1175 cm ⁻¹)
<i>Phaseolus vulgaris</i> (PHA-L)	Tri/tetra-antennary complex-type N-glycans	2,3,5,6-tetrafluoro-4-mercaptobenzoic acid (TFMBA; 1388 cm ⁻¹)

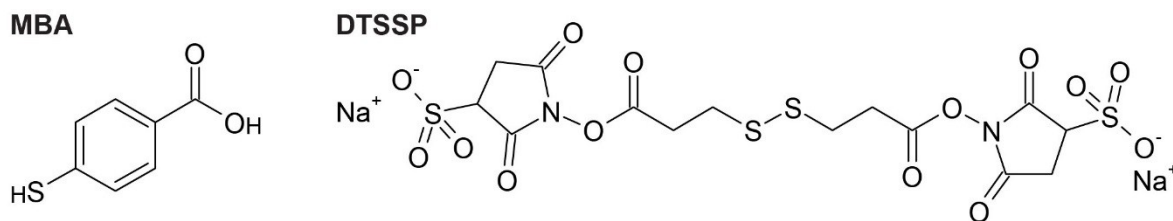


Figure S1. Molecular structures of Raman reporter 4-mercaptobenzoic acid (MBA; spectral peak 1075 cm⁻¹) and linker 3,3'-dithiobis[sulfosuccinimidyl]propionate (DTSSP).

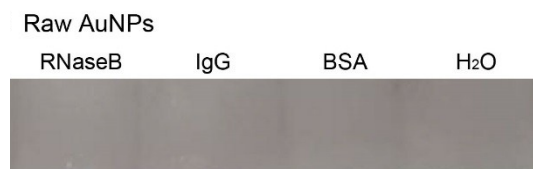


Figure S2. BSA, RNaseB and IgG immobilized on PVDF membrane were incubated as a non-specific binding control with unmodified 'raw' AuNPs. There is no indication of binding visible on the membrane.