Detection of hypersialylated metastatic cancers by surface enhanced Raman scattering

[1] Application of phenyl-boronic acid-installed PEGylated (APBA-PEG-b-PAMA) gold nanoparticles (GNP) coupled with Toluene blue O (T/BA-GNPs) as surface enhanced Raman scattering (SERS) probes to target surface hypersialylated (N-acetyleneuraminic acid, Neu5Ac) metastatic cancer cells and tumors tissue explants.

[2] Reactive oxygen species (ROS)-mediated abrogation of sialylation pathway in cancer cell lines by nitroxide-radical containing nanoparticle (RNP)

INTRODUCTION

RESULTS

[1] SERS intensity correlates with metastatic potential in breast cancer cell lines

SERS measurement protocol

[2] ROS scavenging nitroxide-radical containing nanoparticles (RNP) as anti-metastatic candidate

CONCLUSION

T/BA-GNP-SERS

ROS-scavenging RNP

Potential cytodiagnostic system Potential anti-metastatic agent