

Supplementary Material for:

**Size-Exclusion Chromatography-Based Exosome Size
Subtyping and Multiplex Membrane Protein Profiling for
Differentiating Gastrointestinal Cancer Prognosis**

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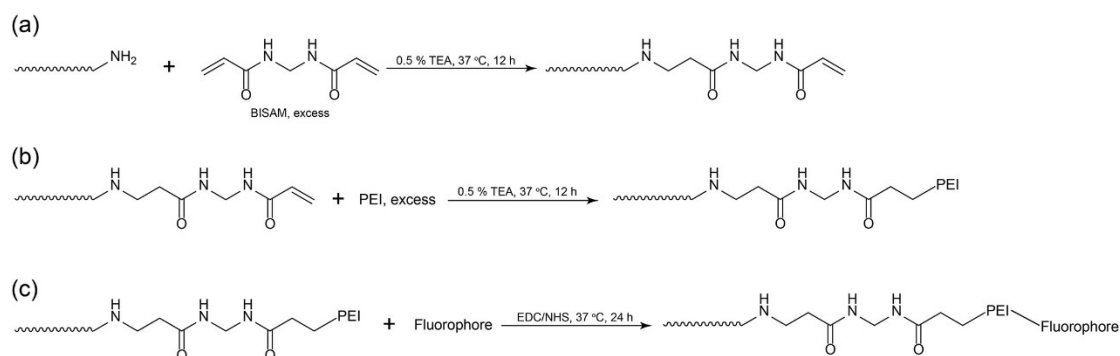


Fig. S1. (a) Aptamer sequence with primary amine at 5' end was first reacted with excess BISAM for 12 h to prepare acrylated aptamer. (b) Acrylated aptamer was further reacted with excess PEI for introducing multiple amine groups for. (c) PEI aptamer was finally reacted with fluorophores through EDC/NHS catalyzed amidation to produce fluorescent aptamer.

Table S1. Aptamer sequences used for protein profiling

Name	Sequences (5' to 3')
CD63 aptamer	NH ₂ -CAC CCC ACC TCG CTC CCG TGA CAC TAA TGC TA [1]
CD24 aptamer	NH ₂ -TAT GTG GGT GGG TGG GCG GTT ATG CTG ATG CAG CCT TGC T [2]
EpCAM aptamer	NH ₂ -CAC TAC AGA GGT TGC GTC TGT CCC ACG TTG TCA TGG GGG GTT GGC CTG [3]
MUC1 aptamer	NH ₂ -GCA GTT GAT CCT TTG GAT ACC CTG G [4]

References

- 1 Y. Jiang, M. Shi, Y. Liu, S. Wan, C. Cui, L. Zhang and W. Tan, *Angew. Chem. Int. Ed.*, 2017, **56**, 11916–11920.
- 2 L. Hou, L. Pu, Y. Chen, Y. Bai, Y. Zhou, M. Chen, S. Wang, Yi-pin Lv, C. Ma, P. Cheng, K. Zhang, Q. Liang, S. Deng and D. Wang, *ACS Nano*, 2022, **16**, 5807–5819.
- 3 X. Xie, F. Li, H. Zhang, Y. Lu, S. Lian, H. Lin, Y. Gao and L. Jia, *Eur J Pharm Sci*, 2016, **83**, 28–35.
- 4 B. S. Varnamkhasti, H. Hosseinzadeh, M. Azhdarzadeh, S. Y. Vafaei, M. Esfand yari-Manesh, Z. H. Mirzaie, M. Amini, S. N. Ostad, F. Atyabi and R. Dinarvand, *Int J Pharm*, 2015, **494**, 430–444.