Reference Library
Exosomes Route of Administration:

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Different delivery routes alter Extracellular Vesicle distribution pattern

1. Wiklander OP, Nordin JZ, O'Loughlin A, et al. Extracellular vesicle in vivo biodistribution is determined by cell source, route of administration and targeting. J Extracell Vesicles. 2015;4:26316. Published 2015 Apr 20. doi:10.3402/jev.v4.26316

"To assess whether the route of injection influences the distribution pattern, mice were given the same amount of HEK293T-DiR-EVs (1.0□10^{10} p/g) using 3 different systemic delivery routes, i.v., i.p. and s.c. (Fig. 3B). The different injection routes rendered different distribution patterns. In contrast to i.v. injections, i.p. and s.c. injections resulted in significantly (p B0.0001) lower EV accumula- tion in liver (i.v.: 60%93.9; i.p.: 35%94.2; s.c.: 30%94.5) and spleen (i.v.: 12%93.6; i.p.: 5%91.0; s.c.: 2%90.3; pB0.01 for i.v. vs. s.c.) whereas increased accumulation was observed in pancreas (i.v.: 2.6%90.3; i.p.: 17%9 2.9; s.c.: 10%90.5; pB0.001 for i.v. vs. i.p) and GI (i.v.: 16%91.8; i.p.: 36%91.7; s.c.: 41%93.9; pB0.0001). Furthermore, i.p. injections displayed slightly higher total tissue fluorescence compared to i.v. injections, whereas s.c. injections resulted in much lower signals (i.v.: 2.0□10^{10} p/s; i.p.: 3.0□10^{10} p/s; s.c.: 0.5□10^{10} p/s; Supplementary Fig. 5A and B). These results indicate that the route of injection influences tissue distribution of infused EVs and the site of injection alternations may thus be used to increase the EV distribution to a potential tissue target."