3.Exosomes Serve as Tumour Markers for Personalized Diagnostics Owing to Their Important Role in Cancer Metastasis

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文章简介

外泌体是指在生理和病理状态下，机体细胞形成多泡小体后，通过细胞膜融合分泌到细胞外环境中的直径为 30-150 nm 左右的微小囊泡。系列研究表明，外泌体在肿瘤疾病的发生发展、肿瘤转移等病理过程中发挥着重要的作用，近年来，肿瘤细胞来源外泌体的生物学功能和潜在临床价值受到了广泛关注。该综述发表于国际著名学术期刊《Journal of Extracellular Vesicles》上，**系统介绍了外泌体在肿瘤的发生、发展以及辅助肿瘤细胞穿越内皮血管进入血液循环过程中的作用，讨论了外泌体作为疾病诊断标志物的应用前景及面临的挑战，是外泌体相关肿瘤研究领域的经典综述之一。**

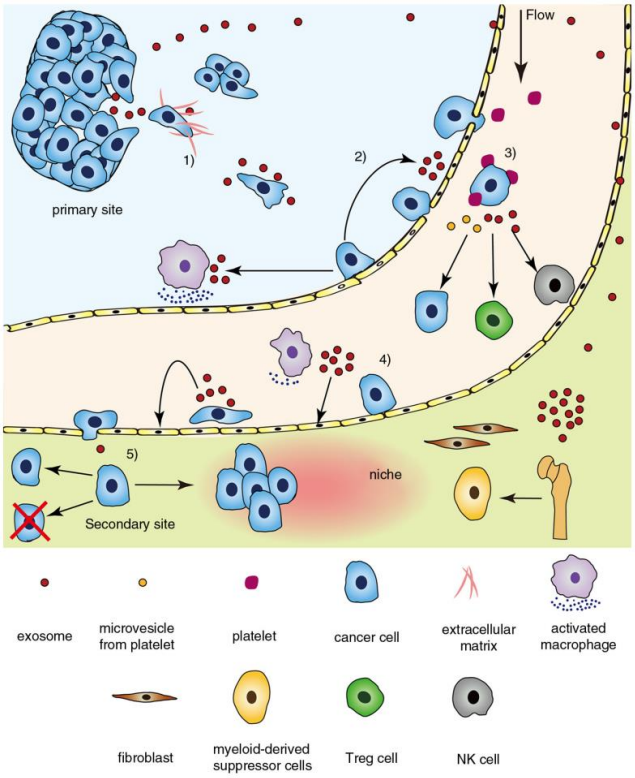

Fig. The promotion of exosome to cancer metastasis. Tumour-associated exosomes influence other cells and modulate microenvironment, involving the key steps in cancer metastasis cascade. 1) In primary site, tumour cells secrete exosomes to induce EMT and degrade the matrix. The Wnt pathway in cancer cells is activated by exosomes during the migration. 2) As intravasation, endothelium is disturbed directly by tumour-secreted exosomes and indirectly by macrophages activated by exosomes derived from tumour cells. 3) Both circulating tumour cells (CTCs) and tumour-activated platelets secrete exosomes affecting the immune cells and CTCs. 4) Adhesive molecules on endothelial cells are upregulated by exosomes from the adherent tumour cell. 5) Disseminated tumour cells will proliferate forming a micrometastasis in appropriate niche, which is remoulded by exosomes from primary site.