Precision therapies for cancer via functional layered double hydroxides nanomedicine

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Solid tumors pose a great threat to human health. Among all, lung and liver cancer are two most common malignant tumors with the fastest-growing incidence and highest mortality rate, posing a major threat to human health and life. As safe non-viral vectors, nanomaterials are potential candidates as drug delivery platforms and functional agents. Among all, Layered double hydroxides (LDHs) demonstrate great potential as high-efficient nanomedicine for cancer precision theranostics via desirable loading capacity, targeted delivery and adjuvanticity[1-4]. Based on LDHs, a series of smart nanomedicine have been successfully synthesized for tumor-targeting gene immunotherapy[5], combined therapy[6] and in-situ tumor vaccine[7], showing desirable therapeutic efficiency. These findings will provide a solid scientific basis and research foundation for the development of precision medicine for cancer treatment and the future clinical translation of LDHs.

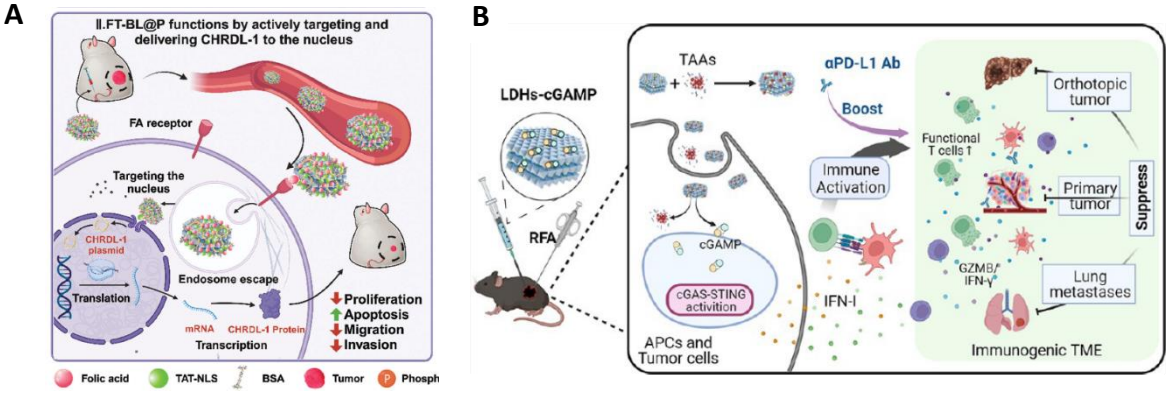

Figure. LDHs-based nanomedicine for (A) tumor-targeting therapy and (B) in-situ vaccine.

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