

Supplementary data

Authors	Title	Journal	Year	Methods/Focus	Volume(Issue)
Pandya A et al.	The future of cancer immunotherapy: DNA vaccines leading the way	Medical Oncology	2023	Cancer immunotherapy	40(7):200
Tang J et al.	Therapeutic DNA vaccines against HPV-related malignancies	Viruses	2022	Clinical trials, HPV	14(2):239
Chavda VP et al.	DNA vaccines for SARS-CoV-2	Expert Rev Vaccines	2021	COVID-19	20(12):1549–60
Kozak M, Hu J	DNA Vaccines: Their formulations, engineering and delivery	Vaccines	2024	Delivery strategies	12(1):71
Sheikhlary S	Recent Findings on Therapeutic Cancer Vaccines	N/A	2024	Review	N/A
Lu B et al.	DNA vaccine platforms and delivery systems	Frontiers in Immunology	2024	Delivery, challenges	15:1332939
Pagliari S et al.	DNA Vaccines: History, Mechanisms, Perspectives	J Mol Biol	2023	History, mechanisms	435(23):168297
Coban C et al.	Molecular and cellular mechanisms of DNA vaccines	Human Vaccines	2008	Mechanisms	4(6):453–7
Li L, Petrovsky N	Mechanisms for enhanced DNA vaccine immunogenicity	Expert Rev Vaccines	2016	Mechanisms	15(3):313–29
Mascellino MT et al.	Overview of Anti-SARS-CoV-2 Vaccines	Infection Drug Resist	2021	Efficacy/safety	14:3459–76
Yurina V	DNA Vaccine: Mechanism of Action and Efficacy Factors	J Reports Pharm Sci	2018	Mechanism	7(1):92–100
Zheng X et al.	Monovalent/Bivalent DNA vaccines for Dengue	Front Cell Infect Microbiol	2017	Dengue	7:175
Mondal H, Thomas J	Advances in fish pathogen vaccines	Aquaculture Int	2022	Aquaculture	30(4):1971–2000
Gómez L et al.	Multivalent DNA vaccine	Biomed Res Int	2017	Bacterial	2017:6535479



Review Article PJMLS ID: 3202, Haider et al., 2025

Authors	Title	Journal	Year	Methods/Focus	Volume(Issue)
	against Brucella abortus			infection	
Jahanafrooz Z et al.	DNA vs mRNA vaccines for cancer	Drug Discov Today	2020	Comparison	25(3):552–60
Gaudinski MR et al.	Zika DNA vaccine trials	The Lancet	2018	Clinical trials	391(10120):552–62
Tebas P et al.	Anti-Zika Virus DNA Vaccine	NEJM	2021	Clinical trials	385(12):e35
Hayashi H et al.	Preclinical SARS-CoV-2 DNA vaccine	Curr Res Transl Med	2022	Preclinical	70(4):103348
Chang C-J	Immune sensing & fish DNA vaccines	Fish Shellfish Immunol	2020	Fish vaccines	101:252–60
Yu J et al.	DNA vaccine protection in rhesus macaques	Science	2020	COVID-19	369(6505):806–11
Li Y et al.	DNA-protein COVID-19 vaccine combo	Emerg Microbes Infect	2021	COVID-19	10(1):342–55
Lee J et al.	Engineering DNA vaccines for infections	Acta Biomaterialia	2018	Bioengineering	80:31–47
Davis HL, McCluskie MJ	DNA vaccines for viral diseases	Microbes Infect	1999	Review	1(1):7–21
Manickan E et al.	DNA Vaccines – Boon or Gimmick?	N/A	2017	Opinion	37(2–6):507–21
Lee LYY et al.	Review of DNA vaccines for influenza	Front Immunol	2018	Influenza	9:1568
Dalmo RA	DNA vaccines for fish	J Fish Dis	2018	Review	41(1):1–9
Scheiblhofer S et al.	DNA/mRNA vaccines against allergies	Pediatr Allergy Immunol	2018	Allergies	29(7):679–83
Gary EN, Weiner DB	DNA vaccines: prime time is now	Curr Opin Immunol	2020	Review	65:21–7
Levy Y	DNA & protein HIV vaccines	Lancet HIV	2024	HIV	11(5):e274–5
Liu T et al.	Tumor vaccine delivery combinations	ACS Nano	2024	Tumor vaccines	18(29):18801–33



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Lim M et al.	Nanodelivery for DNA vaccines	Pharmaceutics	2020	Nanotech	12(1):30
Shah MAA et al.	DNA vaccine delivery via nanoparticles	J Nanoscience Nanotechnol	2015	Nanotech	15(1):41–53
Tang J et al.	Nanotech for nasal/pulmonary vaccine delivery	Nanomaterials	2022	Mucosal delivery	12(2):226
Cappellano G et al.	Nano-Microparticles for vaccines	Vaccines	2021	Nanoplatfroms	9(6):606
Lu Y et al.	Controlled-release DNA vaccine system	Mater Sci Eng C	2020	Controlled release	106:110294
Eusébio D et al.	Improving plasmid DNA immunogenicity	Drug Discov Today	2021	Enhancement methods	26(11):2575–92
Muthumani K et al.	Zika protection via DNA vaccines	npj Vaccines	2016	Zika	1(1):1–11
Tiptiri-Kourpeti A et al.	Enhancing cancer DNA vaccine efficacy	Pharmacol Ther	2016	Cancer	165:32–49
McCluskie MJ et al.	Delivery methods affect immune response	Mol Med	1999	Immunology	5(5):287–300
Widera G et al.	Electroporation for DNA vaccines	J Immunol	2000	Delivery	164(9):4635–40
Ishii KJ et al.	Innate vs adaptive DNA vaccine response	Nature	2008	Immune mechanisms	451(7179):725–9
Farris E et al.	Micro-/Nanoparticles for DNA vaccines	Exp Biol Med	2016	Delivery	241(9):919–29
Briones M et al.	Cationic microparticles for DNA vaccines	Pharm Res	2001	Delivery	18(5):709
Rezaei T et al.	Strategies in melanoma DNA vaccines	Pigment Cell Melanoma Res	2021	Cancer therapy	34(5):869–91
Khalid K, Poh CL	SARS-CoV-2 DNA vaccine development	Adv Med Sci	2023	COVID-19	68(2):213–26
Zhou K et al.	Zika vaccine development	Vaccines	2021	Zika	9(9):1004



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	status				
Shafaati M et al.	Brief review on DNA vaccines (COVID era)	Future Virology	2022	Review	17(1):49–66
Bande F et al.	Avian infectious bronchitis vaccines	J Immunol Res	2015	Veterinary	2015:424860
Liu MA	DNA vs mRNA vaccine technologies	Vaccines	2019	Comparison	7(2):37
Nakayama Y, Aruga A	Regulatory status of gene vaccines	Vaccines	2015	Policy	3(1):186–202
Pandya A, Shah Y, Kothari N, Postwala H, Shah A, Parekh P, et al.	The future of cancer immunotherapy: DNA vaccines leading the way	Medical Oncology	2023	Review	40(7):200
Tang J, Li M, Zhao C, Shen D, Liu L, Zhang X, et al.	Therapeutic DNA vaccines against HPV-related malignancies: promising leads from trials	Viruses	2022	Clinical trial review	14(2):239
Chavda VP, Pandya R, Apostolopoulos V.	DNA vaccines for SARS-CoV-2: toward third-generation vaccination era	Expert Review of Vaccines	2021	Review	20(12):1549-60
Kozak M, Hu J.	DNA Vaccines: Their formulations, engineering, and delivery	Vaccines	2024	Review	12(1):71
Sheikhlary S.	Recent Findings on Therapeutic Cancer Vaccines: An Updated Review	No specific journal	2024	Review	
Lu B, Lim JM, Yu B, Song S, Neeli P, Sobhani N, et al.	The next-generation DNA vaccine platforms and delivery systems	Frontiers in Immunology	2024	Review	15:1332939
Pagliari S, Dema B, Sanchez-Martinez A, Montalvo Zurbia-Flores G, Rollier CS.	DNA Vaccines: History, Molecular Mechanisms and Future Perspectives	Journal of Molecular Biology	2023	Review	435(23):168297
Coban C, Shohei K,	Molecular and cellular	Human Vaccines	2008	Review	4(6):453-7



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Fumihiko T, Shizuo A, Ishii KJ.	mechanisms of DNA vaccines				
Li L, Petrovsky N.	Molecular mechanisms for enhanced DNA vaccine immunogenicity	Expert Review of Vaccines	2016	Review	15(3):313-29
Mascellino MT, Di Timoteo F, De Angelis M, Oliva A.	Overview of the Main Anti- SARS-CoV-2 Vaccines: Mechanism of Action, Efficacy, and Safety	Infection and Drug Resistance	2021	Review	14:3459-76

