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## **CpG-free plasmids confer reduced inflammation and sustained pulmonary gene expression. — Source link**

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**Topics:** CpG site, Cationic liposome and Transgene

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**CpG-free plasmids confer reduced inflammation and sustained pulmonary gene expression.**

ABSTRACT

Pulmonary delivery of plasmid DNA (pDNA)/cationic liposome complexes is associated with an acute unmethylated CG dinucleotide (CpG)-mediated inflammatory response and brief duration of transgene expression. We demonstrate that retention of even a single CpG in pDNA is sufficient to elicit an inflammatory response, whereas CpG-free pDNA vectors do not. Using a CpG-free pDNA expression vector, we achieved sustained ( $\geq 56$  d) in vivo transgene expression in the absence of lung inflammation.

**Keyword:** CpG; Gene therapy; Inflammation; Lung; Plasmids.