

## Method of Treating and Preventing Infections in Immunocompromised Subjects with Immunostimulatory CpG Oligonucleotides

### Technology Summary

Lung disease is the number three killer in America, responsible for one in seven deaths, and lung disease and other breathing problems are the number one killer of babies younger than one year old. Today, more than thirty (30) million Americans are living with chronic inflammatory lung diseases such as emphysema and chronic bronchitis. In addition, approximately one hundred and fifty thousand (150,000) Americans are affected by acute respiratory distress syndrome (ARDS) each year.

Many lung diseases are associated with lung inflammation. For example, ARDS involves the rapid onset of progressive malfunction of the lungs and is usually associated with the malfunction of other organs due to the inability to take up oxygen. The condition is associated with extensive lung inflammation and small blood vessel injury in all affected organs. ARDS is commonly precipitated by trauma, sepsis (systemic infection), diffuse pneumonia, and shock. It also may be associated with extensive surgery, and certain blood abnormalities. In many cases of ARDS and other inflammatory lung diseases, the inflammatory response that accompanies the underlying disease state is much more dangerous than the underlying infection or trauma.

**FDA researchers discovered suppressive oligonucleotides to suppress lung inflammation.** More specifically, the invention claims use of suppressive oligonucleotides for the treatment, prevention, or inhibition of pneumonia, ARDS, and chronic bronchitis.

### Potential Commercial Applications

- Vaccine adjuvants,
- Production of vaccines,
- Immunotherapeutics

### Competitive Advantages

- Novel vaccine candidates
- Rapid production time
- Ease of scalability

### Development Stage:

**Inventors:** Dennis Klinman, Daniela Verthelyi

### Publications:

- C. Bode, **et. al.** (2011) CpG DNA as a vaccine adjuvant. Expert Review of Vaccines, 10:4, 499-511. PMID: [21506647](https://pubmed.ncbi.nlm.nih.gov/21506647/)

### Intellectual Property:

- United States Patent [No. 8,043,622](#) issued 10.25.2011
- United States Patent [No. 8,501,188](#) issued 08.06.2013
- United States Patent [No. 9,006,203](#) issued 04.14.2015

**Product Area:** Vaccine, adjuvant, therapeutic

**FDA Reference No:** E-2002-018

### Licensing Contact:

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