Synthesis of Capsular Polysaccharides

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ABSTRACT

Researchers at the University of California, Davis have developed a more cost effective and consistent method for producing capsular polysaccharides, a component of certain types of vaccines.

FULL DESCRIPTION

Current methods for obtaining capsular polysaccharides rely on purifying them from pathogens. Purification techniques are not exact, and often lead to impurities in the sample. Additionally, bacterial polysaccharides have an inherent heterogeneity that make them difficult to produce in a uniform manner. Some chemical synthesis methods exist that try to address these issues, but they require multiple steps and yields are not very high.

Researchers at the University of California, Davis have developed a more cost effective and consistent method for producing capsular polysaccharides. This enzymatic synthesis circumvents the need for purification techniques, since it inherently creates a nearly pure sample. Additionally, this is a one-pot technique, so it requires less steps than other synthesis processes and is simpler to implement. It also allows for production at a preparative scale. This method can be applied to create more consistent bacterial polysaccharide vaccines.

APPLICATIONS

▶ Synthesis of capsular polysaccharides

FEATURES/BENEFITS

▶ Creation of pure polysaccharide samples without the need for imprecise purification techniques
▶ Homogeneous, uniform population of polysaccharides
▶ One-pot technique requires less steps than other synthesis methods

PATENT STATUS

Patent Pending

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OTHER INFORMATION

KEYWORDS

Bacterial polysaccharides,
Synthetic capsular polysaccharide, Vaccines

CATEGORIZED AS

▶ Materials & Chemicals
  ▶ Biological
  ▶ Polymers
  ▶ Medical
  ▶ Vaccines

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