Streptococcus pneumoniae serotyping/ serogrouping assay by Quellung reaction and reflex PCR*

Serotyping of *S. pneumoniae* is particularly important for vaccine-related disease surveillance. The Infectious Disease Laboratory adopted and validated the CDC-published method of seven triplex real-time PCR reactions to identify the thirteen serotypes included within the 13-valent conjugate vaccines, plus eight additional key serotypes (*J Clin Microbiol*. 2013 Feb;51(2):647-52. doi: 10.1128/JCM.02927-12. Epub 2012 Dec 5.). IDL uses the Quellung reaction to first identify the serotype(s) and, if applicable, confirms by the serotype/serogroup PCR assay.

A *S. pneumoniae* strain may be identified using Omni serum, which is a pooled polyvalent purified pneumococcal serum giving a capsular reaction in a Neufeld test (Quellung reaction). The Quellung reaction is not a swelling of the capsule but a reaction between the type-specific anti-serum and the capsular polysaccharide rendering the capsule visible. An antigen antibody reaction causes a change in the refractive index of the capsule so that it appears "swollen" and more visible. A high-quality phase contrast microscope equipped with a 100X (oil immersion) objective is required for Quellung based serotyping.

Targets	***Streptococcus pneumoniae***
Accepted Specimens	*S. pneumoniae* isolate.
Specimens Receipt	Specimens accepted Monday through Friday.
Assay Schedule	Quellung assay is set up Monday through Friday, with **reflex** serotype/serogroup PCR to follow if applicable.
Normal Range	*S. pneumoniae* serotype or serogroup identified by Quellung and/or PCR.
CPT Codes	**Serotype/serogroup PCR:** 87798

**This test was developed, and its performance characteristics determined by the Infectious Diseases Laboratory. It has not been cleared or approved by the U.S. Food and Drug Administration. The intended use is for epidemiology surveillance purposes only.*