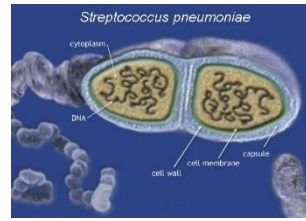


**Streptococcus Pneumoniae Vaccines: ELISA Kits, Carbohydrates and Antibodies**



**Streptococcus pneumoniae**, or pneumococcus, is a Gram-positive, alpha-hemolytic, aero-tolerant anaerobic member of the genus Streptococcus. S. pneumoniae is one of the most common causes of **bacterial meningitis** in adults and young adults, along with Neisseria meningitidis, and is the leading cause of bacterial meningitis in

adults in the world. S. pneumoniae have a **polysaccharide** capsule that acts as a **virulence factor** for the organism; more than 90 different serotypes are known. Genetic information can vary up to 10% between strains. Serotype specific antibodies against the capsular polysaccharides provide protection against the corresponding serotypes. Serotypes specific polysaccharides (free or conjugated to CRM197) are the active ingredients of various vaccines.



polysaccharides conjugated to diphtheria toxin CRM197. There are currently three PCV vaccines available on the global market: Prevnar (called Prevnar in some countries), **Synflorix** and Prevnar 13. **Prevnar-7 or PCV-7** (Wyeth) is a heptavalent vaccine (4, 6B, 9V, 14, 18C, 19F, and 23F), **Synflorix** (GlaxoSmithKline) is a decavalent vaccine (**PCV-10**), meaning that it contains ten serotypes of pneumococcus (1, 4, 5, 6B, 7F, 9V, 14, 18C, 19F, and 23F). **Prevnar 13/PCV-13** (Pfizer) is a triskaivalent vaccine, meaning that it contains thirteen serotypes of pneumococcus (1, 3, 4, 5, 6A, 6B, 7F, 9V, 14, 18C, 19A, 19F, 23F) which are conjugated to a carrier protein. **Conjugated vaccine** (Prevnar, Synflorix) consists of capsular polysaccharides covalently bound to the **diphtheria toxoid CRM197**, which is highly immunogenic but non-toxic. Among other things, this results in mucosal immunity and eventual establishment of lifelong immunity after several exposures.



**Pneumococcal vaccines.**

Types include **Pneumococcal polysaccharide vaccine & Pneumococcal conjugate vaccine**. The polysaccharide vaccine most commonly used today consists of purified polysaccharides from 23 serotypes (1, 2, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 10A, 11A, 12F, 14, 15B, 17F, 18C, 19F, 19A, 20, 22F, 23F and 33F). **Pneumovax-23 by Merck** contains purified polysaccharides from 23 serotypes and it is **not conjugated**. Pneumococcal conjugate vaccine (PCV) contains

**About ADI S. Pneumonia vaccine ELISA**-ADI has now developed antibody ELISA kits to determine the efficacy of pneumococcal vaccines in animal and humans. Antibody tests kits are available for non-conjugated vaccine **Pneumovax (23-serotypes)**; **Conjugated (CRM197) vaccines Prevnar-7 (pCV-7), Prevnar-10 (PCV-10/Synflorix) and Prevnar-13 (PCV-13)**. The kits are designed to detect IgG and IgM antibody titers to the carbohydrates to the given serotypes present in the vaccines. Separate kits are available to detect antibodies to CRM197 as well. ADI can also provide individual or a group of serotype antibody kits that are not listed.

**Streptococcus Pneumoniae Vaccines Related ELISA kits**

Vaccines	Target Antigens	ELISA Type	Ab Type	Human	Mouse	Rabbit
<u><a href="#">Streptococcus Pneumonia</a></u>	5 Serotypes (6A, 7F, 14, 18C, and 19F)	Ab	IgG			560-230-C5G
			IgM			560-235-C5M
	Prevnar-7/PCV-7 (7 serotypes)	Ab	IgA	560-116-07A	560-106-07A	560-125-07A
			IgG	560-110-07M	560-100-07G	560-120-07G
		Ab	IgM	560-115-07M	560-105-07M	560-125-07M
			IgA	560-146-10A	560-136-10A	
	Synflorix/PCV-10 (10-serotypes)	Ab	IgG	560-140-10G	560-130-10G	560-150-10G
			IgM	560-145-10M	560-135-10M	560-155-10M
	PCV-13 (13-serotypes)	Ab	IgA		560-166-13A	560-306-13A
			IgG	560-170-13G	560-160-13G	560-300-13G
			IgM	560-175-13M	560-165-13M	560-305-13M
	Pneumovax/PCV-23 (23-serotypes)	Ab	IgA	560-189-23A	560-181-23A	560-316-23A
			IgG	560-190-23G	560-180-23G	560-310-23G
			IgM	560-195-23M	560-185-23M	560-315-23M
	6B	Ab	IgG	560-210-6BG	560-200-6BG	560-220-6BG
			IgM			560-225-6BM
	23F	Ab	IgG		560-200-23F	560-310-23G
			IgM			
*CWPS/22F (non-specific)	Ab	IgG	560-410-C22	560-430-C22	560-420-C22	
		IgM	560-415-C22	560-435-C22	560-425-C22	
Diphtheria CRM197 (Carrier Protein)	CRM197	Ab	IgG	940-200-DHG	940-220-DMG	940-230-DRG
			IgM	940-210-DHM	940-225-DMM	560-425-C22

\*Note: All human anti-PnS antibody ELISA kits are tested after adsorbing with proprietary immunosorbent prepared with common wall serotype (CWPS) and 22F Streptococcus\_Pneumonia\_Vaccine\_Flr.pdf Rev. 160619A

