

PRODUCT SPOTLIGHT

PNEUMOCOCCAL POLYSACCHARIDES

Diseases caused by the bacterium *Streptococcus pneumoniae* are a major global health concern. Millions of people become infected with this pathogen each year, developing serious conditions such as pneumonia, meningitis, and otitis media. Currently, it is estimated that pneumococcal diseases result in the death of more than one-million children under five years of age every year, primarily in developing countries. The severity of these pneumococcal diseases is primarily attributed to variations in the composition and structure of the capsular antigen.

To aid in the analysis and prevention of pneumococcal disease, ATCC offers 31 types of pneumococcal polysaccharides from various sources. They are the same serotypes found in current commercially available vaccines.

Each polysaccharide is extracted and purified separately, making the products specific and useful as antigens in:

- Direct enzyme-linked immunosorbent assays (ELISA)
- Epidemiological studies
- In vitro immunological research

ATCC pneumococcal polysaccharides are available in three package sizes and new lots will be provided with a Certificate of Analysis that will include identity by NMR, residual protein, antigenicity, and molecular weight.

Table 1: ATCC Pneumococcal Polysaccharides by USA and Danish Designations

Pneumococcal Type	Available Volumes (ATCC® No.)				Corresponding Strains (ATCC® No.)	PMEN Strains (ATCC® No.)
	USA Designation ¹	Danish Designation ²	2 mg	10 mg		
1	1	10-X™	12-X™	13-X™	6301™ , 9163™	BAA-1666™ , BAA-1654™ , BAA-1655™ , 33400™
2	2	500-X™	501-X™	502-X™	6302™	
3	3	31-X™	32-X™	33-X™	6303™ , 10813™	BAA-1657™
4	4	34-X™	35-X™	36-X™	6304™ , BAA-334™*	BAA-1664™
5	5	37-X™	38-X™	41-X™	6305™	BAA-341™
6	6A	14-X™	271-X™	280-X™	6306™	BAA-659™ , BAA-1667™
8	8	503-X™	504-X™	505-X™	6308™	BAA-1659™
9	9N	506-X™	507-X™	508-X™	6309™ , BAA-2298™	
12	12F	515-X™	516-X™	517-X™	6312™	BAA-1660™
14	14	73-X™	74-X™	81-X™	6314™ , 700672™	BAA-340™ , BAA-1661™ , BAA-1658™ , 700677™ , 700676™ , 700902™
17	17F	521-X™	522-X™	523-X™	6317™	

¹United States designations chronologically indicate the antigens in order of recognition. ²The Danish designation uses an alphanumeric system to indicate any known cross-reactivity. The number refers to the sero-capsular antigen group, and the letter represents related serotypes that cannot be distinguished. * Bacterial genome is fully sequenced

Table 1: ATCC Pneumococcal Polysaccharides by USA and Danish Designations

Pneumococcal Type		Available Volumes (ATCC® No.)				Corresponding Strains (ATCC® No.)	PMEN Strains (ATCC® No.)
USA Designation ¹	Danish Designation ²	2 mg	10 mg	200mg			
19	19F	84-X™	99-X™	101-X™	6319™ , 49619™	BAA-657™ , 700905™*	
20	20	524-X	525-X	526-X			
22	22F	527-X™	528-X™	529-X™	6322™		
23	23F	102-X™	103-X™	104-X™	6323™ , 51938™	51916™ , BAA-343™ , 700906™ , 700669™*	
24	24F	551-X™	552-X™	553-X™	6324™		
25	25F	530-X™	531-X™	532-X™	6325™		
26	6B	105-X™	106-X™	107-X™	6326™ , 51937™	BAA-658™ , 700670™ , BAA-342™ , 700675™ , 700903™ , BAA-612™	
30	15A	536-X™	537-X™	538-X™		BAA-661™	
34	10A	509-X™	510-X™	511-X™	8334™ , BAA-2307™ , BAA-2299™		
43	11A	512-X™	513-X™	514-X™	10343™		
46	23A	545-X™	546-X™	547-X™	10346™		
51	7F	108-X™	281-X™	284-X™	10351™	BAA-1665™	
54	15B	518-X™	519-X™	520-X™	10354™	BAA-1663™	
56	18C	285-X™	288-X™	289-X™	10356™	BAA-1662™	
57	19A	301-X™	302-X™	304-X™	10357™ , BAA-475™	700674™ , 700673™* , 700678™ , 700904™	
64	23B	548-X™	549-X™	550-X™	10364™		
66	35B	539-X™	540-X™	541-X™	10366™	BAA-660™	
68	9V	305-X™	325-X™	331-X™	10368™	700671™	
70	33F	533-X™	534-X™	535-X™	10370™ , BAA-2305™		
71	38	542-X™	543-X™	544-X™	10371™		

¹United States designations chronologically indicate the antigens in order of recognition. ²The Danish designation uses an alphanumeric system to indicate any known cross-reactivity. The number refers to the sero-capsular antigen group, and the letter represents related serotypes that cannot be distinguished. * Bacterial genome is fully sequenced

ADDITIONAL RESOURCES FOR PNEUMOCOCCAL POLYSACCHARIDE RESEARCH

The **Pneumococcal Molecular Epidemiology Network (PMEN)** provides detailed information on strains listed in the preceding table, including typing by Pulsed-field gel electrophoresis (PFGE), multilocus sequencing, and PBP fingerprinting.


The **NIST Chemistry WebBook** contains IR, mass, electronic/vibrational, and UV/VIS spectra as well as constants of diatomic molecules (spectroscopic data) and ion energetics data drawn from various evaluated sources. The WebBook is available online at webbook.nist.gov/chemistry/.


The **Spectral Database System (SDBS)**, managed by the National Institute of Materials and Chemical Research in Japan, contains IR, 1H-NMR, 13C-NMR, mass, and ESR spectra of organics.

The **RCSB Protein Data Bank (PDB)** provides structural analysis and sequence data for *Streptococcus pneumoniae* proteins, including those related to ATCC® [BAA-255™](#) (non-virulent) and ATCC® [BAA-334™](#) (capsular serotype 4) fully genome sequenced strains. PDB is available online at www.rcsb.org.

SEE OUR ONLINE CATALOG AT WWW.ATCC.ORG/POLYSACCHARIDES FOR A FULL DESCRIPTION OF EACH ITEM.

 10801 University Boulevard
Manassas, Virginia 20110-2209

 703.365.2700

 703.365.2701

 sales@atcc.org

 www.atcc.org

BA-052022-v15

©2022 American Type Culture Collection. The ATCC trademark and trade name, and any other trademarks listed in this publication are trademarks owned by the American Type Culture Collection unless indicated otherwise.

These products are for laboratory use only. Not for human or diagnostic use. ATCC products may not be resold, modified for resale, used to provide commercial services or to manufacture commercial products without prior ATCC written approval.