

PNEUMOCOCCUS

Key to pneumococcal antisera

| <i>Streptococcus pneumoniae</i> | <i>Streptococcus pneumoniae</i> serotype | Positive capsular reaction (Neufeld) in: | | | | Antiserum/antisera recommended for identification of type |
|---------------------------------|--|--|------------|-------------|---------------|---|
| | | Pool serum | Type serum | Group serum | Factor serum | |
| Type 1 | 1 | A, P | 1 | | | Type serum 1 |
| Type 2 | 2 | A, T | 2 | | | Type serum 2 |
| Type 3 | 3 | B, R | 3 | | | Type serum 3 |
| Type 4 | 4 | A, R | 4 | | | Type serum 4 |
| Type 5 | 5 | A, S | 5 | | | Type serum 5 |
| Group 6 | 6A | B, Q | | 6 | 6b | Factor serum 6b |
| | 6B | B, Q | | 6 | 6c | Factor serum 6c + 6d ¹ |
| | 6C | B, Q | | 6 | 6d | Factor serum 6d + 6c ¹ |
| | 6D | B, Q | | 6 | 6c, 6d | Factor serum 6c + 6d |
| Group 7 | 7F | C, P | | 7 | 7b | Factor sera 7b + 7c ¹ |
| | 7A | C, P | | 7 | 7c | Factor serum 7c |
| | 7B | C, P | | 7 | 7e | Factor serum 7e |
| | 7C | C, P | | 7 | 7f | Factor serum 7f |
| Type 8 | 8 | B, S | 8 | | | Type serum 8 |
| Group 9 | 9A | D, R | | 9 | 9d | Factor sera 9d + 9g ¹ |
| | 9L | D, R | | 9 | 9b | Factor sera 9b + 9e ¹ |
| | 9N | D, R | | 9 | 9b, 9e | Factor serum 9e |
| | 9V | D, R | | 9 | 9d, 9g | Factor serum 9g |
| Group 10 | 10F | E, S | | 10 | 10b | Factor sera 10b + 10d ¹ + 10f ¹ |
| | 10A | E, S | | 10 | 10d | Factor sera 10d + 10b ¹ |
| | 10B | E, S | | 10 | 10b, 10d | Factor sera 10b + 10d |
| | 10C | E, S | | 10 | 10b, 10f | Factor serum 10f |
| Group 11 | 11F | D, T | | 11 | 11b, 11g | Factor sera 11g + 11f ¹ |
| | 11A | D, T | | 11 | 11c | Factor sera 11c + 11b ¹ |
| | 11B | D, T | | 11 | 11b, 11f, 11g | Factor sera 11f + 11g |
| | 11C | D, T | | 11 | 11b, 11c, 11f | Factor sera 11c + 11f |
| | 11D | D, T | | 11 | 11b, 11c | Factor sera 11b + 11c + 11f ¹ |
| Group 12 | 12F | E, R | | 12 | 12b | Factor sera 12b + 12c ¹ |
| | 12A | E, R | | 12 | 12c | Factor sera 12c + 12b ¹ |
| | 12B | E, R | | 12 | 12b, 12c, 12e | Factor serum 12e |
| Type 13 | 13 | H | 13 | | | Type serum 13 |
| Type 14 | 14 | H, P | 14 | | | Type serum 14 |
| Group 15 | 15F | H, S | | 15 | 15b, 15c | Factor sera 15b + 15c |
| | 15A | H, S | | 15 | 15c | Factor sera 15c + 15b ¹ |
| | 15B | H, S | | 15 | 15b, 15e, 15h | Factor serum 15h |
| | 15C | H, S | | 15 | 15e | Factor sera 15e + 15h ¹ |
| Group 16 | 16F | D | | 16 | 16b | Factor serum 16b |
| | 16A | D | | 16 | 16c | Factor serum 16c |
| Group 17 | 17F | F, S | | 17 | 17b | Factor serum 17b |
| | 17A | F, S | | 17 | 17c | Factor serum 17c |
| Group 18 | 18F | A, Q | | 18 | 18c, 18e, 18f | Factor serum 18f |
| | 18A | A, Q | | 18 | 18d | Factor serum 18d |
| | 18B | A, Q | | 18 | 18e | Factor sera 18e + 18c ¹ |
| | 18C | A, Q | | 18 | 18c, 18e | Factor sera 18c + 18f ¹ |
| Group 19 | 19F | B, P | | 19 | 19b | Factor serum 19b |
| | 19A | B, P | | 19 | 19c | Factor serum 19c |
| | 19B | B, P | | 19 | 7h | Factor sera 7h + 19f ¹ |
| | 19C | B, P | | 19 | 19f, 7h | Factor serum 19f |
| Type 20 | 20 | C, T | 20 | | | Type serum 20 |

Key to pneumococcal antisera (continued)

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|---------------------------------|--|--|------------|-------------|---------------|---|
| | | Pool serum | Type serum | Group serum | Factor serum | |
| Type 21 | 21 | E | 21 | | | Type serum 21 |
| Group 22 | 22F | F, T | | 22 | 22b | Factor serum 22b |
| | 22A | F, T | | 22 | 22c | Factor serum 22c |
| Group 23 | 23F | H, Q | | 23 | 23b | Factor serum 23b |
| | 23A | H, Q | | 23 | 23c | Factor serum 23c |
| | 23B | H, Q | | 23 | 23d | Factor serum 23d |
| Group 24 | 24F | C | | 24 | 24d | Factor serum 24d + 24c ¹ |
| | 24A | C | | 24 | 24c, 24d | Factor serum 24c |
| | 24B | C | | 24 | 24e | Factor serum 24e |
| Group 25 | 25F | I | | 25 | 25b | Factor serum 25b |
| | 25A | I | | 25 | 25c | Factor serum 25c |
| Type 27 | 27 | F | 27 | | | Type serum 27 |
| Group 28 | 28F | H | | 28 | 28b | Factor serum 28b |
| | 28A | H | | 28 | 28c | Factor serum 28c |
| Type 29 | 29 | G | 29 | | | Type serum 29 |
| Type 31 | 31 | C | 31 | | | Type serum 31 |
| Group 32 | 32F | F | | 32 | 32a | Factor sera 32a + 32b ¹ |
| | 32A | F | | 32 | 32a, 32b | Factor sera 32b |
| Group 33 | 33F | E, T | | 33 | 33b | Factor sera 33b + 20b ¹ |
| | 33A | E, T | | 33 | 33b, 20b | Factor serum 20b |
| | 33B | E, T | | 33 | 33f | Factor sera 33f + 33e ¹ + 6a ¹ |
| | 33C | E, T | | 33 | 33e | Factor serum 33e |
| | 33D | E, T | | 33 | 33f, 6a | Factor serum 6a |
| Type 34 | 34 | G | 34 | | | Type serum 34 |
| Group 35 ² | 35F | G | | 35 | 35a, 35b | Factor sera 35a + 35b |
| | 35A | G | | 35 | 35a, 35c | Factor sera 35a + 35c + 29b ¹ + 42a ¹ |
| | 35B | G | | 35 | 35a, 35c, 29b | Factor sera 35a + 29b |
| | 35C | G | | 35 | 35a, 35c, 42a | Factor sera 35a + 42a |
| Type 36 | 36 | D | 36 | | | Type serum 36 |
| Type 37 | 37 | D | 37 | | | Type serum 37 |
| Type 38 | 38 | I | 38 | | | Type serum 38 |
| Type 39 | 39 | E | 39 | | | Type serum 39 |
| Type 40 | 40 | C | 40 | | | Type serum 40 |
| Group 41 | 41F | F | | 41 | 41a, 41b | Factor serum 41b |
| | 41A | F | | 41 | 41a | Factor sera 41a + 41b ¹ |
| Type 42 | 42 | G | 42 | | | Type serum 42 |
| Type 43 | 43 | I | 43 | | | Type serum 43 |
| Type 44 | 44 | I | 44 | | | Type serum 44 |
| Type 45 | 45 | I | 45 | | | Type serum 45 |
| Type 46 | 46 | I | 46 | | | Type serum 46 |
| Group 47 | 47F | G | | 47 | 47a | Factor sera 47a + 43b ¹ |
| | 47A | G | | 47 | 47a, 43b | Factor serum 43b |
| Type 48 | 48 | I | 48 | | | Type serum 48 |

23-valent vaccine types are indicated by **boldface**.

¹Use these factor antisera to exclude other types within the group.

²All types within *S. pneumoniae* group 35 have to be identified by means of Factor serum 35a, because of cross-reactions to *S. pneumoniae* types 29 and 42 in Group serum 35. Group serum 35 and factor 35a crossreact with *S. pneumoniae* type 47F. Use group serum 47 to exclude types within group 35. All types of *S. pneumoniae* will give a positive reaction in Omni-serum and Anti C-polysaccharide serum.

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Have you encountered a potential new pneumococcal serotype? Contact us to find out.

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