

Salmonella serovars found in Poland

identified in the National Centre for Salmonella until 2013 according to P.A.D.Grimont & F X.Weill,
2007, Antigenic Formulae Of The *Salmonella* Serovars, issue 9.

(compiled on the basis of Dera-Tomaszewska, 2013 Annales Academiae Medicae Gedanensis,
Epidemiology and pathogenicity of *Salmonella* Enteritidis rods and *Salmonella* serovars isolated in
Poland for the first time, Appendix, pages 238-247).

Antigenic Formulae

Type	Somatic antigens (O)	Flagellar antigens (H)		
		Phase 1	Phase 2	Others
Group O:2 (A)				
Paratyphi A	<u>1</u> ,2,12	a	[1,5]	
Group O:4 (B)				
Kisangani	<u>1</u> ,4,[5],12	a	1,2	
Bispebjerg	<u>1</u> ,4,[5],12	a	e,n,x	
Paratyphi B	<u>1</u> ,4,[5],12	b	1,2	[z5],[z13]
Abony	<u>1</u> ,4,[5],12,[27]	b	e,n,x	
II	<u>1</u> ,4,[5],12,[27]	b	[e,n,x]	
Schleissheim	4,12, 27	b	-	
Stanley	<u>1</u> ,4,[5],12,[27]	d	1,2	
Schwarzengrund	<u>1</u> ,4,12,[27]	d	1,7	
Duisburg	<u>1</u> ,4,12,[27]	d	e,n,z ₁₅	[e,h]
Saintpaul	<u>1</u> ,4,[5],12	e,h	1,2	
Reading	<u>1</u> ,4,[5],12	e,h	1,5	[R1...]
Chester	<u>1</u> ,4,[5],12	e,h	e,n,x	
Sandiego	<u>1</u> ,4,[5],12	e,h	e,n,z ₁₅	
Derby	<u>1</u> ,4,[5],12	f,g	[1,2]	
Agona	<u>1</u> ,4,12	f,g,s	[1,2]	[z27],[z45]
Essen	4,12	g,m	-	
Hato	<u>1</u> ,4,[5],12	g,m,s	[1,2]	
California	4,12	g,m,t	[z67]	
Kingston	<u>1</u> ,4,[5],12,[27]	g,s,t	[1,2]	[z43]
Banana	<u>1</u> ,4,[5],12	m,t	[1,5]	
Typhimurium	<u>1</u> ,4,[5],12	i	1,2	
Agama	4,12	i	1,6	
Ljubliana	4,12,27	k	e,n,x	
Bredeney	<u>1</u> ,4,12,27	l,v	1,7	[z40]
Brandenburg	4,[5],12	l,v	e,n,z ₁₅	
Kunduchi	<u>1</u> ,4,[5],12,[27]	l,[z13],[z28]	1,2	
Heidelberg	<u>1</u> ,4,[5],12	r	1,2	
Coeln	<u>1</u> ,4,[5],12	y	1,2	
Kiambu	<u>1</u> ,4,12	z	1,5	
Indiana	<u>1</u> ,4,12	z	1,7	
Stanleyville	<u>1</u> ,4,[5],12, <u>27</u>	z ₄ ,z ₂₃	[1,2]	
Haifa	<u>1</u> ,4,[5],12	z ₁₀	1,2	
Abortusequi	4,12	-	e,n,x	

* [Serovars that occurred in Poland and which names are now removed from the scheme:

S. Abortusbovis].

Group O:7 (C₁)

Strains from this group may be lysogenised by phage 14 (O: 6,7 → O: 6,7,14). These strains formerly were classified in Group C₄, now are incorporated to the group O:7 (variants 14 of serovars already existing in the group) and their names have been eliminated from the scheme.

Oslo	6,7, <u>14</u>	a	e,n,x	
Coleypark	6,7, <u>14</u>	a	l,w	
Brazzaville	6,7	b	1,2	
Ohio	6,7, <u>14</u>	b	l,w	[z59]
Paratyphi C	6,7,[Vi]	c	1,5	
Choleraesuis	6,7	c	1,5	
Isangi	6,7, <u>14</u>	d	1,5	
Livingstone	6,7, <u>14</u>	d	l,w	
Norwich	6,7	e,h	1,6	
Braenderup	6,7, <u>14</u>	e,h	e,n,z15	
Rissen	6,7, <u>14</u>	f,g	-	
Montevideo	6,7, <u>14</u>	g,m,[p],s	[1,2,7]	
Oranienburg	6,7, <u>14</u>	m,t	[z57]	
Galiema	6,7, <u>14</u>	k	1,2	
Thompson	6,7, <u>14</u>	k	1,5	[R1]
Singapore	6,7	k	e,n,x	
Concord	6,7	l,v	1,2	
Potsdam	6,7, <u>14</u>	l,v	e,n,z15	
Gdansk	6,7, <u>14</u>	l,v	z6	
Virchow	6,7, <u>14</u>	r	1,2	
Infantis	6,7, <u>14</u>	r	1,5	[R1...],[z37], [z45],[z49]
Bareilly	6,7, <u>14</u>	y	1,5	
Hartford	6,7	y	e,n,x	[z67]
Oakland	6,7	z	1,6,[7]	
Mbandaka	6,7, <u>14</u>	z10	e,n,z15	[z37],[z45]
Jerusalem	6,7, <u>14</u>	z10	l,w	
Tennessee	6,7, <u>14</u>	z29	[1,2,7]	
Lille	6,7, <u>14</u>	z38	-	[z82]

* [Serovars that occurred in Poland and which names are now removed from the scheme: *S.Mission*, *S.Nienstedten*, *S.Bornum*].

Group O:8 (C₂ – C₃)

Groups O:6.8 (formerly C₂) and O:8 (formerly C₃), differing only in the presence or absence of the factor O:6, were combined into one group O:8.

Tado	8, <u>20</u>	c	z 6	
Virginia	8	d	1,2	
Muenchen	6,8	d	1,2	[z67]
Manhattan	6,8	d	1,5	[z58]
Bardo	8	e,h	1,2	
Newport	6,8, <u>20</u>	e,h	1,2	[z67],[z78]
Kottbus	6,8	e,h	1,5	
Tshiongwe	6,8	e,h	e,n,z15	
Emek	8, <u>20</u>	g,m,s	-	
Yokoe	8, <u>20</u>	m,t	-	

Takoradi	6,8	i	1,5	
Bonariensis	6,8	i	e,n,x	
Kentucky	8, <u>20</u>	i	z ₆	
Haardt	8	k	1,5	
Blockley	6,8	k	1,5	[z ₅₈]
Litchfield	6,8	l,v	1,2	
Manchester	6,8	l,v	1,7	
Breukelen	6,8	l,z ₁₃ ,[z ₂₈]	e,n,z ₁₅	
Hindmarsh	8, <u>20</u>	r	1,5	
Bovismorbificans	6,8, <u>20</u>	r,[i]	1,5	[R1...]
Goldcoast	6,8	r	l,w	
Altona	8, <u>20</u>	r,[i]	z ₆	
Inchpark	6,8	y	1,7	
Chailey	6,8	z ₄ ,z ₂₃	[e,n,z ₁₅]	
Corvallis	8, <u>20</u>	z ₄ ,z ₂₃	[z ₆]	
Albany	8, <u>20</u>	z ₄ ,z ₂₄	-	[z ₄₅]
Istanbul	8	z ₁₀	e,n,x	
Hadar	6,8	z ₁₀	e,n,x	
Glostrup	6,8	z ₁₀	e,n,z ₁₅	
Molade	8, <u>20</u>	z ₁₀	z ₆	

* [R 1: R-phases of flageller antigen that agglutinate with antisera H:1,2, H:1.5, H:1,6, H:1,7 and do not agglutinate with antisera H:2, H:5, H:6, H:7].

Grupa O:9 (D₁)

Miami	<u>1</u> ,9,12	a	1,5	
Saarbruecken	<u>1</u> ,9,12	a	1,7	
Durban	9,12	a	e,n,z ₁₅	
II	<u>1</u> ,9,12	b	e,n,x	
Typhi	9,12[Vi]	D	-	[z ₆₆]
Eastbourne	<u>1</u> ,9,12	e,h	1,5	
Berta	<u>1</u> ,9,12	[f],g,[t]	-	
Enteritidis	<u>1</u> ,9,12	g,m	-	
Blegdam	9,12	g,m,q	-	
Dublin	<u>1</u> ,9,12[Vi]	g,p	-	
Rostock	<u>1</u> ,9,12	g,p,u	-	
Moscow	9,12	g,q	-	
Panama	<u>1</u> ,9,12	l,v	1,5	[R1...]
Kapemba	9,12	l,v	1,7	[z ₄₀]
Javiana	<u>1</u> ,9,12	l,z ₂₈	1,5	[R1...]
Gallinarum	<u>1</u> ,9,12	-	-	

* [Serovars that occurred in Poland and which names are now removed from the scheme: S.Pullorum].

Grupa O:9,46 (D₂)

Plymouth	9,46	d	z ₆	
India	9,46	l,v	1,5	
Ouakam	9,46	z ₂₉	-	[z ₄₅]
Fresno	9,46	z ₃₈	-	

Grupa O:3,10 (E₁)

Strains from this group may be lysogenised by phage ϵ_{15} (O: 3,10 \rightarrow O: 3,15) and then by phage ϵ_{34} (O: 3,15 \rightarrow O: 3,15,34); in such situation factors O:15 or O:15,34 replace factor O:10, which is no longer detectable. Strains having the somatic antigen O:3,15 (former group E₂) and strains with somatic antigen O:3,15,34 (former group E₃) are, together with strains O:3,10, classified into one serological group named now group O:3,10.

Oxford	3, {10} {15} {15,34}	a	1,7	
Butantan	3, {10} {15} {15,34}	b	1,5	
Onireke	3,10	d	1,7	
Vejle	3, {10} {15}	e,h	1,2	[z27]
Muenster	3, {10} {15} {15,34}	e,h	1,5	[z48]
Anatum	3, {10} {15} {15,34}	e,h	1,6	[z64]
Nyborg	3, {10} {15}	e,h	1,7	
Newlands	3, {10} {15,34}	e,h	e,n,x	
Meleagridis	3, {10} {15} {15,34}	e,h	l,w	
Amsterdam	3, {10} {15} {15,34}	g,m,s	-	
Westhampton	3, {10} {15} {15,34}	g,s,t	-	[z37]
Falkensee	3, {10} {15}	i	e,n,z15	
Zanzibar	3, {10} {15}	k	1,5	
Nchanga	3, {10} {15}	l,v	1,2	
London	3, {10} {15}	l,v	1,6	
Give	3, {10} {15} {15,34}	l,v	1,7	[d],[z77]
Uganda	3, {10} {15}	l,z13	1,5	
Elizabethville	3, {10} {15}	r	1,7	
Weltevreden	3, {10} {15}	r	z6	
Orion	3, {10} {15} {15,34}	y	1,5	
Stockholm	3, {10} {15}	y	z6	
Lexington	3, {10} {15} {15,34}	z10	1,5	[z49]

* [Serovars that occurred in Poland and which names are now removed from the scheme: S.Rosenthal, S.Newhaw, S.Newington, S.Cambridge, S.Drypool, S.Halmstad, S.Portsmouth, S.New Brunswick, S.Kinshasa, S.Binza, S.Thomasville].

Grupa O:1,3,19 (E₄)

Liverpool	1,3,19	d	e,n,z15	
Senftenberg	1,3,19	g,[s],t	-	[z27],[z34],[z37] [z43],[z45],[z46] [z82]
Cannstatt	1,3,19	m,t	-	
Taksony	1,3,19	i	z6	
Westerstede	1,3,19	l,z13	1,2	
Krefeld	1,3,19	y	l,w	
Llandoff	1,3,19	z 29	[z6]	[z37]
Dessau	1,3,15,19	g,s,t	-	

Grupa O:11 (F)

Adamstua	11	e,h	1,6	
Stendal	11	l,v	1,2	
Rubislaw	11	r	e,n,x	

IV	11	Z4,Z23	-	
Telhashomer	11	Z10	e,n,x	

Grupa O:13 (G)

Groups, formerly known as G₁ (O:13,22) and G₂ (O:13,23), were merged into one group O:13.

Ibadan	13,22	b	1,5	
Mississippi	<u>1</u> ,13,23	b	1,5	
Bracknell	13,23	b	1,6	
Grumpensis	<u>1</u> ,13,23	d	1,7	
Teletkebir	13,23	d	e,n,z15	
Havana	<u>1</u> ,13,23	f,g,[s]	-	[z79]
Agbeni	<u>1</u> ,13,23	g,m,[s],[t]	-	
Idikan	<u>1</u> ,13,23	i	1,5	
Kedougou	<u>1</u> ,13,23	i	l,w	
Poona	<u>1</u> ,13,22	z	1,6	[z44],[z59]
Worthington	<u>1</u> ,13,23	z	l,w	[z43]
II	13,22	Z29	1,5	
Cubana	<u>1</u> ,13,23	Z29	-	[z37],[z43]

Grupa O:6,14 (H)

Heves	6,14,[24]	d	1,5	
Finkenwerder	[1],6,14,[25]	d	1,5	
Lindern	6,14,[24]	d	e,n,x	
Fischerkietz	1,6,14,25	y	e,n,x	
Uzaramo	1,6,14,25	Z4,Z24	-	

Grupa O:16 (I)

Brazil	16	a	1,5	
Hull	16	b	1,2	
Hvittingfoss	16	b	e,n,x	
Yoruba	16	c	l,w	
Gaminara	16	d	1,7	
Salford	16	l,v	e,n,x	

Grupa O:17 (J)

Berlin	17	d	1,5	
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Grupa O:18 (K)

Cerro	<u>6</u> , <u>14</u> ,18	Z4,Z23	[1,5]	[z45],[z82]
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Grupa O:21 (L)

Minnesota	21	b	e,n,x	[z33],[z49]
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Grupa O:28 (M)

Halle	28	c	1,7	
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Kibusi	28	r	e,n,x	
Pomona	28	y	1,7	[z80],[z90]
Grupa O:30 (N)				
Urbana	30	b	e,n,x	
Morehead	30	i	1,5	
Grupa O:35 (O)				
Adelaide	35	f,g	-	[z27]
Anecho	35	g,s,t	-	
IIIb	35	i	z35	
Alachua	35	z4,z23	-	[z37],[z45]
Grupa O:38 (P)				
Thiaroye	38	e,h	1,2	
Invernes	38	k	1,6	
Alger	38	l,v	1,2	
IIIb	38	r	z	[z57]
Grupa O:40 (R)				
Johannesburg	<u>1</u> ,40	b	e,n,x	
Tilene	<u>1</u> ,40	e,h	1,2	
Grupa O:41 (S)				
II	41	z	1,5	
Waycross	41	z4,z23	[e,n,z15]	
Lodz	41	z29	-	
Grupa O:42 (T)				
II	42	b	e,n,z15	
II	42	g,t	-	
Grupa O:43 (U)				
IV	43	z4,z23	-	
Grupa O:45 (W)				
VI	45	a	e,n,x	
Suelldorf	45	f,g	-	
Grupa O:47 (X)				
II	47	a	1,5	
Bergen	47	i	e,n,z15	
Alexanderplatz	47	z38	-	

Grupa O:48 (Y)

Former group O:64 is now included in the group O:48. It has been show that factor O:64 is identical to subunit O:48₄ of somatic antigen which is the determinant of this group.

II	48	d	Z6
IIIb	48	k	Z53
IIIb	48	k	Z57
IIIb	48	r	e,n,x,z15
IV	48	Z4,Z23	-
Isaszeg	48	Z10	e,n,x

Grupa O:50 (Z)

IIIb	50	k	Z53
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Grupa O: 58

IIIb	58	Z52	Z35
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Grupa O:60

IIIb	60	Z52	Z53
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Grupa O:61

IIIb	61	k	1,5,(7)
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