

Differentiation of Typical *Salmonella*

Salmonella species	1. <i>S. choleraesuis</i> -	2. <i>S. hirschfeldii</i> -	3. <i>S. typhi</i> -	4. <i>S. paratyphi A</i> -	5. <i>S. schottmuelleri</i> -	6. <i>S. typhimurium</i> -	7. <i>S. enteritidis</i> -	8. <i>S. gallinarum</i> -	9. <i>S. salamae</i> -	10. <i>S. arizoniae</i> -	11. <i>S. houtenae</i> -	12. <i>S. bongori</i> -
Subgenus #	I	I	I	I	I	I	I	I	II	III	IV	V
Arabinose	-	V	-	+	+	+	+	[+]	+	+	+	+
Arginine	d	d	-	[-]	d	d	d	-	+	[+]	d	+
Citrate	-	+	-	-	+	+	+	+	+	+	+	+
Dulcitol	(-)	+	-	+	+	+	+	+	+	-	-	+
Gelatin	-	-	-	-	-	-	-	-	-	(+)	-	-
Glucose (gas)	+	+	-	+	+	+	+	-	+	+	+	[+]
H <sub>2</sub> S	-	+	+	V	+	+	+	+	+	+	+	+
Inositol	-	d	-	-	d	d	d	-	[-]	-	d	-
Lactose	-	-	-	-	-	-	-	-	-	d	-	-
Lysine decarboxylase	+	+	+	-	+	+	+	+	+	+	+	+
Malonate	-	-	-	-	-	-	-	-	+	+	-	-
Motility	+	+	+	+	+	+	+	-	+	+	+	+
ONPG	-	-	-	-	-	-	-	-	[-]	+	-	+
Ornithine decarboxylase	+	+	-	+	+	+	+	-	+	+	+	+
Rhamnose	+	+	-	+	+	+	+	-	+	+	+	+
Sorbitol	+	+	+	+	+	+	+	+	+	+	+	+
Trehalose	-	+	+	+	+	+	+	d	+	+	+	+
Xylose	+	+	[+]	-	+	+	+	d	+	+	+	+
Antigenic Formula: Somatic	6,7	6,7,VI	9,12,VI	1,2,12	1,4,5,12	1,4,5,12	1,9,12	1,9,12	1,9,12	51	43	48
Flagellar	c:1,5	c:1,5	d:-	a:-	b:1,2	i:1,2	g,m:-	"-:-"	l,w'e,n,x	Z <sub>4</sub> Z <sub>3</sub> :-	Z <sub>4</sub> Z <sub>3</sub> :-	Z <sub>4</sub> :-
Subgenus #	I	I	I	I	I	I	I	I	II	III	IV	V
Salmonella species	1. <i>S. choleraesuis</i> -	2. <i>S. hirschfeldii</i> -	3. <i>S. typhi</i> -	4. <i>S. paratyphi A</i> -	5. <i>S. schottmuelleri</i> -	6. <i>S. typhimurium</i> -	7. <i>S. enteritidis</i> -	8. <i>S. gallinarum</i> -	9. <i>S. salamae</i> -	10. <i>S. arizoniae</i> -	11. <i>S. houtenae</i> -	12. <i>S. bongori</i> -

\*Symbols: +, 90 - 100% of strains are positive; [+], 76 - 89% positive; d, 26 - 75% positive; [-], 11 - 25% positive; -, 0 - 10% positive; ( ) delayed reaction. Data from: Holt, John G., Krieg, N.R., et al. *Bergey's Manual of Systematic Bacteriology*. vol. 1, Baltimore, Md.:Williams & Wilkins, 1984. Pages 415-6,427-58.