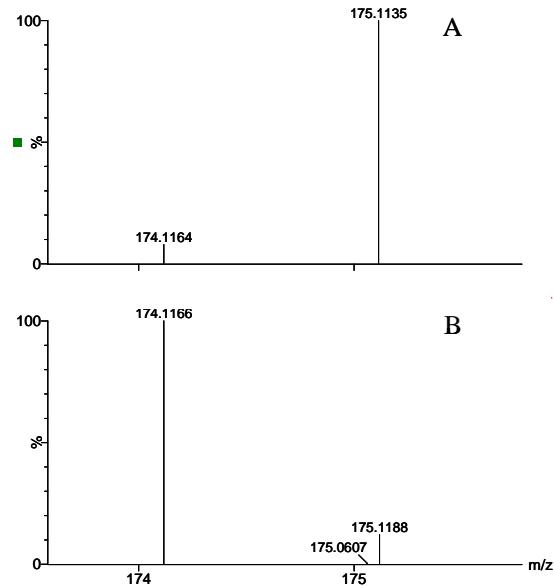
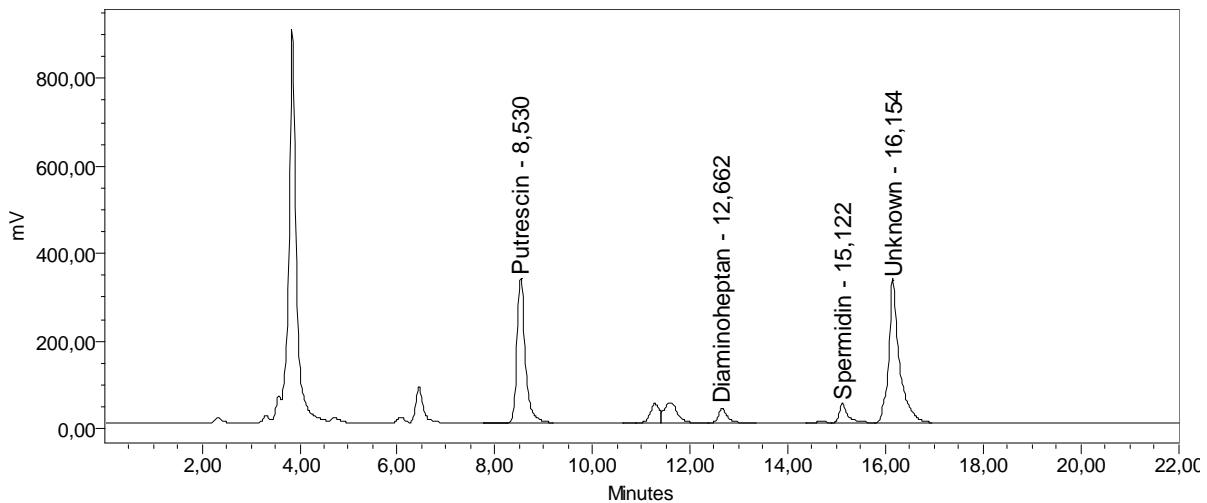


**Figure S1.** A shift from the  $^{14}\text{N}$  to  $^{15}\text{N}$  isotope fragment of putrescine.



A) The isotope shift after 14d of cultivation with  $^{15}\text{N}$  labelled culture medium. B) Natural isotope pattern of the putrescine fragment.

**Figure S2.** Representative HPLC chromatogram of polyamine analysis from 7d old culture media.



Polyamines were measured by fluorescence detection at 340 nm (excitation) and 510 nm (emission). The identification of polyamines was performed with authentic standards.

**Table S1.** Putative identity of compounds detected in the medium of S2LS3 culture. Metabolites were identified by matching their spectra to NIST library and the Golm metabolomics database. Retention time (RT), retention index (RI) calculated with alkanes; the match values from Nist, and the intensities (peak area) of a compound-specific molecular fragment (specific ion, *m/z*) at different time points are shown. Values for peak area are given Not identified values were signed with n.i. and intensities under the detection limit signed with n.d.

Identity	Specific ion ( <i>m/z</i> )	RT [min]	RI	RI		Nist Matc	Rev. Nist Match	Peak area 1d ±	Peak area 3d ±	Peak area 5d ±	Peak area 7d ±
				Golm DB	h						
<b>Lactic acid 2TMS</b>	190,99	6,58	1010	1051	883	884	492±124	606±218	726±188	667±66	
<b>Benzoic acid TMS</b>	105,03	11,03	1244	1253	789	851	n.d	12±2	11±2	10±1	
<b>Galactose methoxyamine 5TMS</b>	117,07	22,34	1714	1721	723	744	7±3	48±11	124±22	131±14	
<b>Putrescine 4TMS</b>	174,11	22,68	1729	1745	894	895	20±9	9±2	369±80	492±115	
<b>Unknown sugar 1</b>	217,07	23,31	1758	n.i.	n.i.	n.i.	246±77	272±73	191±38	93±10	
<b>Fructose methoxyamine 5TMS</b>	364,00	25,62	1870	1865	873	874	1200±175	1440±249	1306±210	410±84	
<b>Fructose methoxyamine 5TMS 2</b>	364,18	25,82	1880	1774	878	880	959±104	1142±200	286±30	360±70	
<b>Glucose methoxyamine 5TMS</b>	364,18	26,07	1893	1888	908	923	455±65	286±30	151±9	19±3	
<b>Glucose methoxyamine 5TMS 2</b>	364,18	26,39	1908	1910	828	918	11±1	10±2	2±0.5	n.d.	
<b>Unknown sugar 2</b>	205,10	26,57	1917	n.i.	n.i.	n.i.	137±46	120±33	41±11	25±3	
<b>Unknown sugar 3</b>	147,10	26,72	1924	n.i.	n.i.	n.i.	n.d	n.d	n.d	14±3	
<b>Inositol 6TMS</b>	317,97	29,69	2082	2091	914	944	1380±260	4±1	n.d.	n.d.	
<b>Sucrose methoxyamine 8TMS</b>	361,15	38,66	2636	2640	760	767	saturated	saturated	saturated	saturated	