

Table SIV. Comparative analysis of the relative abundance of nucleotide sugars in 13 organisms or cell lines.

Relative levels of nucleotide sugars in HAP1 cells cultured under different conditions (supplementary Figure 3)

	CMP-NeuNAc	CMP-ribitol	CMP-NeuNAc	UDP-arabinose	UDP-galactose	UDP-glucose	UDP-xylose	UDP-MannNAc	UDP-glucNAc	UDP-GalNAc	GDP-mannose	GDP-glucose	UDP-GlucA	GDP-fructose	TDP-glucose	TDP-fructose	ADP-glucose	ADP-fructose
[-H] DMEM High	0.09	0.95	5.15	0.12	0.01	30.21	0.51	n.d.	25.55	4.95	0.74	n.d.	14.65	0.83	n.d.	n.d.	n.d.	n.d.
[-H] DMEM High	0.07	0.30	3.78	0.12	10.75	40.65	0.50	n.d.	23.11	4.15	0.61	n.d.	14.64	0.88	n.d.	n.d.	n.d.	0.63
[-H] DMEM High	0.08	0.31	5.11	0.15	10.34	37.29	0.55	n.d.	25.17	4.19	0.81	n.d.	14.28	0.95	n.d.	n.d.	n.d.	0.75
[-H] DMEM low	0.10	0.54	4.47	0.12	10.86	42.47	0.85	n.d.	21.95	3.64	0.81	n.d.	12.37	1.06	n.d.	n.d.	n.d.	0.76
[-H] DMEM -2.75	0.11	0.61	4.60	0.06	10.80	39.49	0.74	n.d.	22.01	3.91	0.98	n.d.	14.62	0.97	n.d.	n.d.	n.d.	1.07
[-H] DMEM low	0.07	0.71	4.98	0.08	10.07	40.01	1.02	n.d.	22.49	3.95	0.97	n.d.	13.07	1.05	n.d.	n.d.	n.d.	1.51

Relative levels of nucleotide sugars in organisms and cells (Figure 2)

	CMP-NeuNAc	CMP-ribitol	CMP-NeuNAc	UDP-arabinose	UDP-galactose	UDP-glucose	UDP-xylose	UDP-MannNAc	UDP-glucNAc	UDP-GalNAc	GDP-mannose	GDP-glucose	UDP-GlucA	GDP-fructose	TDP-glucose	TDP-fructose	ADP-glucose	ADP-fructose
Human WT fibroblasts	0.16	1.76	4.23	0.13	0.50	20.25	0.65	0.00	24.58	22.41	1.18	0.00	5.32	1.09	0.00	0.00	0.00	0.71
HEK293	0.23	0.51	9.11	0.09	6.47	19.53	0.47	0.00	32.46	21.26	1.86	0.00	6.15	1.45	0.00	0.00	0.00	0.40
HAP1	0.04	0.32	3.14	0.09	6.47	22.95	0.28	0.00	31.74	20.85	1.27	0.00	11.87	0.70	0.00	0.00	0.00	0.25
Mouse C2C12 myotubes	0.25	2.84	5.96	0.50	14.02	41.69	1.47	0.00	10.73	7.35	0.75	0.00	13.38	0.86	0.00	0.00	0.00	0.64
Mouse C2C12 myotubes	0.82	7.52	3.87	0.02	8.64	21.06	0.67	0.00	28.27	17.96	0.84	0.00	9.71	0.56	0.00	0.00	0.00	0.04
Fibroblast adult	4.89	1.69	27.16	0.84	0.80	2.67	0.47	0.00	35.73	23.14	0.17	0.02	2.22	0.33	0.02	0.04	0.08	0.09
Zebrafish embryo	4.25	1.55	12.70	0.22	3.72	12.90	0.58	0.00	35.99	21.17	0.08	0.02	1.83	0.86	0.01	0.00	0.00	2.11
Canton R male flies	0.00	0.00	0.03	0.32	14.08	45.98	0.24	0.00	22.13	4.64	5.26	0.08	3.49	0.57	0.04	0.00	0.17	2.97
Canton R female flies	0.00	0.01	0.03	0.26	12.62	37.88	0.24	0.00	27.79	5.25	7.24	0.06	4.53	0.65	0.04	0.00	0.15	2.86
Canton R Virgin females	0.00	0.01	0.03	0.41	13.25	28.90	0.27	0.00	34.73	6.73	4.80	0.08	3.71	0.51	0.07	0.00	0.21	6.28
Yeast	0.00	0.00	0.00	0.00	2.31	46.24	0.00	0.00	22.41	0.04	25.98	0.04	0.02	0.00	0.01	0.00	0.04	2.91
Bacteria gram positive	0.02	0.05	0.04	0.01	4.58	19.57	0.02	0.00	31.85	3.98	0.03	0.02	0.01	0.01	0.81	35.43	0.34	1.57
Bacteria gram negative	0.00	13.97	0.00	0.02	3.02	10.51	0.01	0.41	28.85	18.54	0.07	0.01	0.03	0.00	0.06	22.81	1.22	0.46