

## Supplementary Table 5

List of representative peaks of N-glycans by MALDI-TOF-MS analysis in hCK cell line

Composition	Mass (m/z)	Non %	hCK		Remarks
			NeuA %	NeuS %	
Hex <sub>5</sub> HexNAc <sub>2</sub>	1580	43.64	42.30	25.07	
Hex <sub>6</sub> HexNAc <sub>2</sub>	1784	64.88	74.67	49.50	
Fuc <sub>1</sub> Hex <sub>3</sub> HexNAc <sub>4</sub>	1836	12.58	6.81	3.32	
Hex <sub>7</sub> HexNAc <sub>2</sub>	1988	73.28	65.83	52.72	
Hex <sub>5</sub> HexNAc <sub>4</sub>	2070	5.31	45.39	5.01	
Fuc <sub>1</sub> Hex <sub>3</sub> HexNAc <sub>5</sub>	2081	14.62	6.67	0.23	
NeuAc <sub>1</sub> Fuc <sub>1</sub> Hex <sub>4</sub> HexNAc <sub>3</sub>	2156	17.68	0.20	6.29	
Hex <sub>8</sub> HexNAc <sub>2</sub>	2192	88.59	78.37	67.43	
Fuc <sub>1</sub> Hex <sub>5</sub> HexNAc <sub>4</sub>	2244	5.61	91.03*	6.87	*Product from 2605/2966
Fuc <sub>1</sub> Hex <sub>4</sub> HexNAc <sub>5</sub>	2285	2.81	18.77	0.59	
Fuc <sub>1</sub> Hex <sub>3</sub> HexNAc <sub>6</sub>	2326	9.37	6.00	1.93	
Hex <sub>9</sub> HexNAc <sub>2</sub>	2396	100.00	100.00	100.00	<b>Relative intensity</b>
Fuc <sub>1</sub> Hex <sub>5</sub> HexNAc <sub>5</sub>	2489	1.21	37.21*	0.46	*Product from 2850/3212
Hex <sub>6</sub> HexNAc <sub>5</sub>	2519	0.75	9.58	0.21	
NeuAc <sub>1</sub> Fuc <sub>1</sub> Hex <sub>5</sub> HexNAc <sub>4</sub>	2605	9.61	0.37	3.01	
NeuAc <sub>1</sub> Fuc <sub>1</sub> Hex <sub>4</sub> HexNAc <sub>5</sub>	2646	8.25	0.03	3.48	
Fuc <sub>1</sub> Hex <sub>6</sub> HexNAc <sub>5</sub>	2693	0.95	33.33*	0.39	*Product from 3054/3777
Fuc <sub>1</sub> Hex <sub>5</sub> HexNAc <sub>6</sub>	2734	1.02	7.71	0.29	
Hex <sub>6</sub> HexNAc <sub>6</sub>	2764	0.64	14.32	0.18	
NeuAc <sub>2</sub> Hex <sub>5</sub> HexNAc <sub>4</sub>	2792	6.87	0.04**	5.47	** α <sub>2</sub> ,6-Sia
NeuAc <sub>1</sub> Fuc <sub>1</sub> Hex <sub>5</sub> HexNAc <sub>5</sub>	2850	4.52	0.03	1.60	
Fuc <sub>1</sub> Hex <sub>6</sub> HexNAc <sub>6</sub>	2938	0.67	42.96	0.30	*Product from 3661/4022
NeuAc <sub>2</sub> Fuc <sub>1</sub> Hex <sub>5</sub> HexNAc <sub>4</sub>	2966	22.40	0.23**	29.23	** α <sub>2</sub> ,6-Sia
Hex <sub>7</sub> HexNAc <sub>6</sub>	2968	12.75	31.10	19.93	
NeuAc <sub>1</sub> Fuc <sub>1</sub> Hex <sub>6</sub> HexNAc <sub>5</sub>	3054	2.78	0.05	1.98	
Fuc <sub>1</sub> Hex <sub>7</sub> HexNAc <sub>6</sub>	3143	0.79	82.43*	0.39	*Product from 3504/3865
NeuAc <sub>2</sub> Fuc <sub>1</sub> Hex <sub>5</sub> HexNAc <sub>5</sub>	3212	11.33	0.08**	7.81	** α <sub>2</sub> ,6-Sia
NeuAc <sub>1</sub> Fuc <sub>1</sub> Hex <sub>6</sub> HexNAc <sub>6</sub>	3298	2.69	0.08	1.08	
Fuc <sub>2</sub> Hex <sub>7</sub> HexNAc <sub>6</sub>	3317	0.87	2.36	0.20	
Fuc <sub>1</sub> Hex <sub>8</sub> HexNAc <sub>6</sub>	3347	0.29	17.16	0.09	
Fuc <sub>1</sub> Hex <sub>7</sub> HexNAc <sub>7</sub>	3388	0.27	19.15	0.12	
NeuAc <sub>2</sub> Fuc <sub>1</sub> Hex <sub>6</sub> HexNAc <sub>5</sub>	3416	2.86	0.08**	4.42	** α <sub>2</sub> ,6-Sia
Hex <sub>8</sub> HexNAc <sub>7</sub>	3418	2.86	3.72	2.33	
NeuAc <sub>1</sub> Fuc <sub>1</sub> Hex <sub>7</sub> HexNAc <sub>6</sub>	3504	2.67	0.03**	2.99	** α <sub>2</sub> ,6-Sia
Fuc <sub>1</sub> Hex <sub>8</sub> HexNAc <sub>7</sub>	3592	0.43	26.88	0.48	
NeuAc <sub>2</sub> Fuc <sub>1</sub> Hex <sub>6</sub> HexNAc <sub>6</sub>	3661	3.51	0.17**	4.32	** α <sub>2</sub> ,6-Sia
Fuc <sub>2</sub> Hex <sub>8</sub> HexNAc <sub>7</sub>	3766	1.83	1.68	0.08	
NeuAc <sub>3</sub> Fuc <sub>1</sub> Hex <sub>6</sub> HexNAc <sub>5</sub>	3777	2.79	0.02	1.86	
Fuc <sub>1</sub> Hex <sub>9</sub> HexNAc <sub>7</sub>	3796	0.35	4.35	0.08	
Hex <sub>9</sub> HexNAc <sub>8</sub>	3837	0.37	0.72	0.29	
NeuAc <sub>2</sub> Fuc <sub>1</sub> Hex <sub>7</sub> HexNAc <sub>6</sub>	3865	6.71	0.02**	7.81	** α <sub>2</sub> ,6-Sia
Hex <sub>9</sub> HexNAc <sub>8</sub>	3867	9.75	2.55	2.34	
NeuAc <sub>3</sub> Fuc <sub>1</sub> Hex <sub>6</sub> HexNAc <sub>6</sub>	4022	1.82	0.03	0.67	** α <sub>2</sub> ,3- and α <sub>2</sub> ,6-Sia

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Composition	Mass (m/z)	Non %	hCK		Remarks
			NeuA %	NeuS %	
Fuc1 Hex9 HexNAc8	4041	1.07	13.24	0.33	
NeuAc2 Fuc1 Hex8 HexNAc6	4069	1.15	0.10	1.15	
Fuc2 Hex9 HexNAc8	4215	0.36	0.77	0.03	
NeuAc3 Fuc1 Hex7 HexNAc6	4226	3.97	0.08	2.45	
Fuc1 Hex10 HexNAc8	4246	0.24	0.73	0.04	
Fuc1 Hex9 HexNAc9	4286	0.12	0.51	0.01	
NeuAc2 Fuc1 Hex8 HexNAc7	4314	1.77	0.04	0.86	
Hex10 HexNAc9	4316	0.40	1.21	0.74	** $\alpha$ 2,3- and $\alpha$ 2,6-Sia
Fuc1 Hex10 HexNAc9	4491	0.19	5.62	0.07	
NeuAc4 Fuc1 Hex7 HexNAc6	4587	1.64	0.02**	0.05**	** $\alpha$ 2,3- and $\alpha$ 2,6-Sia
Fuc2 Hex10 HexNAc9	4665	0.02	0.24	0.03	
NeuAc3 Fuc1 Hex8 HexNAc7	4675	2.00	0.03	0.66	
Fuc1 Hex10 HexNAc9	4695	0.01	0.12	0.01	
NeuAc2 Fuc1 Hex9 HexNAc8	4763	0.08	0.18	0.15	
Fuc1 Hex11 HexNAc10	4939	0.02	1.89	0.02	
NeuAc3 Fuc1 Hex9 HexNAc8	5125	0.46	0.03	0.22	
Fuc1 Hex12 HexNAc11	5388	0.01	0.16	0.02	
NeuAc3 Fuc1 Hex10 HexNAc9	5574	0.03	0.02	0.05	
Fuc1 Hex13 HexNAc12	5838	< 0.01	0.02	0.02	