

S1 Table. Molecular species of the ganglioside classes detected with the QqQ and the LTQ-Orbitrap mass spectrometers in the retina and other ocular tissues, brain and plasma. The QqQ mass spectrometer was operated in negative ion mode and the LTQ-Orbitrap mass spectrometer was operated in positive ion mode. MM, theoretical molecular mass. +, detected; -, non-detected.

Ceramide	MM	Retina	RPE/choroid	Ciliary body	Optic nerve	Brain	Plasma
GM3							
32:2	1122.666	-	-	-	-	-	+
32:1	1124.682	+	+	+	-	+	+
34:2	1150.698	-	+	+	-	-	+
34:1	1152.713	+	+	+	+	+	+
36:2	1178.729	+	+	+	+	+	+
36:1	1180.744	+	+	+	+	+	+
37:1	1194.760	+	-	-	-	-	-
38:2	1206.760	+	+	+	+	+	+
38:1	1208.776	+	+	+	+	+	+
39:1	1222.791	+	-	+	+	-	+
40:3	1232.775	-	+	+	-	-	+
40:2	1234.791	+	+	+	+	+	+
40:1	1236.807	+	+	+	+	+	+
41:2	1248.807	-	-	+	-	-	+
41:1	1250.823	+	+	+	+	+	+
42:3	1260.807	-	+	+	+	-	-
42:2	1262.823	+	+	+	+	+	+
42:1	1264.838	+	+	+	+	+	+
43:2	1276.838	-	-	-	-	+	+
43:1	1278.854	-	-	-	+	-	+
44:2	1290.854	-	+	-	+	-	-
GM2							
32:1	1327.761	-	-	-	-	+	-
34:2	1353.777	-	-	-	-	-	+
34:1	1355.793	+	+	+	+	+	+
36:2	1381.808	+	+	+	+	+	+
36:1	1383.824	+	+	+	+	+	+
38:2	1409.839	+	+	+	+	+	+
38:1	1411.855	+	+	+	+	+	+
39:1	1425.871	+	-	-	-	-	-
40:2	1437.871	+	+	+	-	-	+
40:1	1439.886	+	+	+	+	+	+
42:3	1463.886	-	+	+	-	-	+
42:2	1465.902	-	+	+	+	+	+
42:1	1467.918	-	+	+	+	+	+
43:2	1479.917	-	-	-	+	-	-
43:1	1481.933	-	-	-	+	-	-
44:2	1493.933	-	-	-	+	-	-

GM1							
32:1	1489.814	-	-	-	-	-	+
34:2	1515.830	-	-	-	-	-	+
34:1	1517.845	-	+	+	+	+	+
36:2	1543.861	-	-	-	-	+	+
36:1	1545.877	+	+	+	+	+	+
38:2	1571.892	-	-	-	+	+	+
38:1	1573.908	+	+	+	+	+	+
40:2	1599.924	-	+	-	+	-	+
40:1	1601.939	+	+	+	+	+	+
42:3	1625.939	-	+	-	+	-	-
42:2	1627.955	+	+	+	+	+	-
42:1	1629.971	-	-	+	-	+	-
43:2	1641.970	-	-	-	+	-	-
44:2	1655.986	-	-	-	+	-	-
GD3							
32:2	1413.761	-	-	-	-	-	+
32:1	1415.777	-	+	+	-	-	+
34:2	1441.793	-	+	+	-	-	+
34:1	1443.809	+	+	+	+	+	+
36:2	1469.824	+	+	+	+	+	+
36:1	1471.840	+	+	+	+	+	+
37:1	1485.855	+	-	-	-	-	-
38:2	1497.856	+	+	+	+	+	+
38:1	1499.871	+	+	+	+	+	+
39:1	1513.887	-	-	+	-	-	-
40:2	1525.887	+	+	+	+	+	+
40:1	1527.902	+	+	+	+	+	+
41:2	1539.902	-	-	+	-	-	-
41:1	1541.918	-	+	+	+	-	+
42:3	1551.902	-	+	+	-	-	+
42:2	1553.918	+	+	+	+	+	+
42:1	1555.934	+	+	+	+	+	+
43:1	1569.949	-	-	-	+	-	-
44:2	1581.949	-	-	-	+	-	-
AcGD3							
34:1	1485.819	+	-	+	+	-	-
36:2	1511.835	+	-	-	+	-	-
36:1	1513.850	+	-	+	+	+	-
38:2	1539.866	+	-	+	-	+	-
38:1	1541.882	+	-	+	+	+	-
40:2	1567.897	+	-	+	-	+	-
40:1	1569.913	+	-	+	+	+	-
41:1	1583.929	-	-	+	-	-	-
42:3	1593.913	-	-	+	-	-	-
42:2	1595.929	-	-	+	-	-	-
42:1	1597.944	-	-	+	-	-	-

GD2							
34:1	1646.888	+	-	+	+	+	+
36:2	1672.904	+	-	-	-	+	-
36:1	1674.919	+	-	+	+	+	+
38:2	1700.935	+	-	-	-	+	-
38:1	1702.951	+	-	+	+	+	+
40:2	1728.966	-	-	-	-	-	-
40:1	1730.982	+	-	+	-	+	-
42:2	1756.998	-	-	+	-	+	-
42:1	1759.006	-	-	+	-	-	-
GD1a							
32:1	1780.909	-	-	+	-	-	+
34:2	1806.925	-	-	+	-	-	+
34:1	1808.941	+	+	+	-	+	+
36:2	1834.956	+	+	+	+	+	+
36:1	1836.972	+	+	+	+	+	+
38:2	1862.988	+	+	+	+	+	+
38:1	1865.003	+	+	+	+	+	+
39:1	1879.019	-	-	-	+	-	-
40:2	1891.019	+	+	+	+	-	+
40:1	1893.035	+	+	+	+	+	+
41:2	1905.034	-	-	+	-	-	-
41:1	1907.050	-	-	+	+	-	+
42:3	1917.034	-	+	+	+	-	-
42:2	1919.050	+	+	+	+	+	+
42:1	1921.066	+	+	+	+	+	+
43:1	1935.082	-	-	-	+	-	-
44:2	1947.082	-	-	-	+	-	-
GD1b							
34:1	1808.941	+	+	+	+	-	+
36:2	1834.956	+	-	-	+	+	-
36:1	1836.972	+	+	+	+	+	+
38:2	1862.988	+	-	-	+	+	-
38:1	1865.003	+	+	+	+	+	+
40:2	1891.019	+	+	+	-	-	+
40:1	1893.035	+	+	+	+	+	+
41:1	1907.050	-	-	+	+	-	+
42:3	1917.034	-	-	-	+	-	-
42:2	1919.050	+	+	+	+	+	+
42:1	1921.066	+	+	+	+	+	+
43:1	1935.082	-	-	-	+	-	-
44:2	1947.082	-	-	-	+	-	-
AcGD1b							
36:2	1876.967	+	-	-	-	+	-
36:1	1878.983	+	-	-	+	+	-
38:1	1907.014	+	-	-	+	+	-
40:1	1935.046	+	-	-	-	+	-

GT3							
34:1	1734.904	+	-	-	-	-	-
36:2	1760.920	+	-	-	-	+	-
36:1	1762.935	+	-	-	-	+	-
38:2	1788.951	+	-	-	-	-	-
38:1	1790.967	+	-	-	-	+	-
40:2	1816.982	+	-	-	-	-	-
40:1	1818.998	+	-	-	-	-	-
42:2	1845.014	+	-	-	-	-	-
42:1	1847.029	+	-	-	-	-	-
AcGT3							
34:1	1776.915	+	-	-	-	-	-
36:2	1802.930	+	-	-	-	-	-
36:1	1804.946	+	-	-	-	+	-
38:2	1830.962	+	-	-	-	+	-
38:1	1832.977	+	-	-	-	+	-
40:2	1858.993	+	-	-	-	-	-
40:1	1861.008	+	-	-	-	-	-
42:2	1887.024	+	-	-	-	-	-
42:1	1889.040	+	-	-	-	-	-
GT1b							
32:1	2072.005	-	-	-	-	-	+
34:2	2098.021	-	-	-	-	-	+
34:1	2100.036	+	+	+	+	+	+
36:2	2126.052	+	-	+	-	-	+
36:1	2128.067	+	+	+	+	+	+
38:2	2154.083	+	-	+	-	+	+
38:1	2156.099	+	+	+	+	+	+
39:1	2170.114	-	-	-	+	-	-
40:2	2182.114	-	+	+	+	-	+
40:1	2184.130	+	+	+	+	+	+
41:1	2198.146	-	-	+	+	-	+
42:3	2208.130	-	+	+	-	-	+
42:2	2210.146	+	+	+	+	-	+
42:1	2212.161	+	+	+	+	+	+
43:1	2226.177	-	+	-	+	-	-
44:2	2238.177	-	-	-	+	-	-
AcGT1b							
34:1	2141.047	-	-	+	-	-	-
36:2	2168.062	-	-	-	-	+	-
36:1	2170.078	+	-	+	+	+	+
38:1	2198.109	+	-	+	+	+	+
40:1	2226.141	+	-	+	+	+	-
42:2	2252.156	-	-	+	-	-	-
42:1	2254.172	-	-	+	-	-	-
GQ1b							
34:1	2391.132	+	-	-	-	-	-

36:2	2417.147	+	-	-	-	+	-
36:1	2419.163	+	+	+	+	+	+
38:2	2445.179	+	-	-	-	+	-
38:1	2447.194	+	+	+	+	+	+
40:2	2473.210	+	-	+	+	-	-
40:1	2475.226	+	-	+	+	+	-
42:2	2501.241	+	-	-	+	-	-
42:1	2503.257	+	-	+	+	-	-
AcGQ1b							
36:1	2461.174	+	-	-	+	+	-
38:1	2489.205	+	-	-	+	+	-
40:1	2517.237	-	-	-	+	-	-