

8 Anhang

8.1 Massenfingerprints, detergenzreiche Phase

1, Aktin:

1060.17062, 1132.63333, 1516.80695, 1547.86219, 1791.01618, 1954.19561

2, Aktin:

848.46675, 1132.63806, 1198.81278, 1354.75849, 1516.85782, 1628.97830, 1644.96777, 1791.04905, 1954.22000, 2231.22616

3, Aktin:

923.52655, 967.38288, 1132.46383, 1198.63759, 1354.54507, 1516.62192, 1644.68639, 1790.79791

4, Aktin:

795.59736, 923.66434, 976.53434, 1036.73872, 1132.57464, 1158.69246, 1164.78669, 1198.74260, 1354.62941, 1499.62313, 1516.65746, 1547.67425, 1629.74570, 1639.76416, 1644.70750, 1790.74747, 1791.07807, 1953.86928, 2169.64466, 2230.76828, 2246.74149

5, Cytochrom b5:

1186.60823, 1412.75185, 1511.77849, 1627.87908, 2205.99998

6, Cytochrom c Oxidase Va:

771.44759, 992.46628, 1148.55855, 1616.56741, 1648.71842, 1776.84081, 2068.87211, 2181.00197, 2213.02413

7, Laminin Rezeptor:

1203.67958, 1291.78703, 1419.83954, 1740.98563, 1833.02708, 2081.06607, 2211.10373

8, Prohibitin:

1023.55578, 1058.51565, 1149.57605, 1185.63141, 1268.61746, 1285.64426, 1333.74872, 1396.82337, 1444.65320, 1560.88974, 1606.84636, 1661.91075, 1733.92229, 1998.09314, 2081.17183, 2098.16352, 2639.37869, 3040.56829

9, ATPase β -Untereinheit:

975.64323, 1038.68459, 1088.69794, 1278.65089, 1349.71047, 1396.63852, 1401.67566, 1406.65578, 1435.72339, 1556.69201, 1617.71940, 1640.78439, 1650.81991, 1735.70712, 1770.62548, 1796.80869, 1831.71100, 1918.92075, 1987.83690, 2004.84187, 2236.49481, 2297.79407, 2333.82343, 2690.92728

10, ATPase coupling Faktor F6:

1045.521513, 1070.533558, 1317.713379, 1361.742714, 1405.764215, 1789.703983, 1794.748542, 2032.85243, 2188.941217, 2211.05494, 2383.847873, 2550.094454

11, ER-60 Precursor:

1359.70652, 1370.76578, 1400.67296, 2575.31284, 2741.33718

12, ER-60 Precursor:

1061.49773, 1246.60976, 1359.65101, 1370.68980, 1400.61811, 1474.71399, 1619.77397, 1639.75805, 1680.73930, 2575.26509, 2741.28591

13, Myosin leichte Kette:

1253.55195, 1260.60116, 1282.61187, 1415.62902, 2350.01284

14, α -Tubulin:

729.38211, 820.34549, 1410.89934, 1702.05274, 1757.12897, 2409.30181

15, Serin-Palmitoyltransferase:

987.54795, 1163.55855, 1658.81149, 1797.86406

16, β -Tubulin:

1039.64642, 1077.59878, 1130.65949, 1159.69506, 1245.66713, 1258.77341, 1287.80467, 1401.77977, 1617.93756, 1631.95092, 1636.94377, 1817.06005, 1844.10301, 1871.11508, 1959.15928, 2035.21622, 2042.24083, 2087.26035, 2394.41799

17, β -Tubulin:

1039,60356, 1077,548934, 1130,608629, 1159,635156, 1245,606055, 1258,706114, 1301,64292, 1335,709121, 1631,846301, 1659,900671, 1707,842972, 1794,831202, 1885,969133, 1959,016783

18, Stomatin like 2:

833.451208, 1044.53432, 1062.535499, 1071.512262, 1296.65262, 1366.719656, 1369.561461, 1475.76119, 1596.736021, 1662.745156, 1670.863237, 1675.012614, 1685.870541, 1794.815773, 1889.885307, 2014.060354, 2030.045967, 2046.049152, 2211.116443, 2346.066188

19, Programmed Cell Death Protein 6:

764.477897, 772.373077, 981.542504, 984.542925, 998.578434, 1356.816277, 1373.742315

Spot 20, F-Actin capping Protein:

1121.53883, 1125.47822, 1141.47408, 1415.71766, 1486.77203, 1518.76138, 1534.76099, 1765.82051, 2509.11950, 2530.17917

21, HSP 27:

987.611591, 1063.453458, 1071.48857, 1088.509268, 1163.630664, 1639.769915, 1797.956543, 1830.981391, 1945.064773

22, Myosin leichte Kette:

1211.760272, 1229.793307, 1253.727934, 1262.754898, 2107.181433, 1210.63633, 1246.67912, 2033.01988, 2276.19312

23, SNAP-alpha:

120.550989, 1123.662851, 1162.557710, 1179.572556, 1184.530138, 1200.556607, 1355.693182, 1358.713925, 1419.664119, 1437.705544, 1460.666646, 1468.731491, 1549.732768, 1794.817961, 2075.010025, 2562.132551

24, Aktin:

1045.652425, 1090.697161, 1132.642976, 1193.734693, 1234.812830, 1320.754929, 1434.833763, 1475.892759, 1493.862221, 1516.863719, 1707.878294, 1791.024081, 1794.984671, 1839.049373, 1954.218827, 2211.306451, 2225.329121, 2231.274576

25, Calpain:

1156.594288, 1777.788556, 1794.769304, 2211.030152, 2239.099161, 2447.184817, 2555.087802

26, HSP 70:

1109.608730, 1183.681000, 1197.707182, 1228.675616, 1234.743877, 1261.698800, 1417.825997, 1465.874958, 1475.822533, 1487.791472, 1630.884439, 1675.826333, 1688.008266, 2786.593908

27, HSP 27:

987.653983, 1088.579730, 1163.676858, 1794.905032, 1798.010171, 1831.047373

28, Heat shock cognate 54:

1017.611328, 1082.605376, 1199.722914, 1211.737641, 1228.677456, 1251.67118, 1253.67801, 1268.711342, 1319.657355, 1407.777659, 1426.730058, 1480.819164, 1481.84427, 1487.766808, 1566.88148, 1632.852787, 1653.936545, 1665.853322, 1691.80814, 1788.06982, 1794.900781, 1821.936563, 1838.092491, 1982.080044, 2230.236065, 2774.4165, 2997.545216

29, Mitoflin:

914.536854, 964.548239, 1015.610226, 1022.622630, 1053.555944, 1119.596797, 1153.634343, 1163.643549, 1177.676957, 1527.885549, 1626.898737, 1632.904979, 1794.881820, 1823.960020, 1880.079453, 2198.143877, 2361.229655, 2432.220781, 2452.223362, 2529.278863

30, Mitofilin:

1002.631202, 1010.694382, 1047.666918, 1053.597506, 1153.713628, 1177.746159, 1308.820877, 1320.687495, 1333.844018, 1399.915473, 1527.952178, 1794.9702, 1880.183266, 1998.284389, 2093.27602, 2198.272332, 2211.291834

31, Mitofilin:

1045.608799, 1053.545416, 1060.58755, 1065.543037, 1153.620689, 1158.646926, 1163.64614, 1179.617411, 1235.616279, 1300.591011, 1308.69653, 1475.7961, 1493.78979, 1527.848759, 1791.782037, 1795.844545, 1823.938729, 1838.946274, 1851.976047, 1880.048998, 2198.123234, 2211.128785, 2383.952205, 2706.177022, 2718.072514

32, Hypothetisches Protein:

1179.593874, 1237.709125, 1251.651258, 1306.678014, 1334.683327, 1393.813166, 1462.778449, 1614.704832, 1794.801176, 2140.159544

33, BiP/GRP78:

986.45944, 997.466138, 1074.510935, 1191.578654, 1210.546781, 1228.586308, 1233.566414, 1316.591704, 1384.662527, 1460.715626, 1528.708219, 1556.728382, 1566.735788, 1588.794302, 1604.826295, 1669.722249, 1677.765429, 1709.808539, 1794.780207, 1801.846906, 1815.95167, 1833.868531, 1887.91906, 1920.95906, 21933.971643, 2016.993173, 2147.914663, 2164.95059

34, Tropomyosin 4:

894.428421, 973.521329, 1003.498838, 1015.501247, 1065.490076, 1090.501085, 1157.548043, 1170.648092, 1179.575059, 1199.649282, 1235.557293, 1243.630514, 1272.634534, 1298.744193, 1307.651943, 1399.739619, 1428.744665, 1475.737574, 1493.720939, 1614.746325, 1689.761122, 1742.845794, 1791.703282, 2383.953768

35, α -Tubulin:

1015.5866, 1083.546923, 1085.630168, 1099.558514, 1198.724365, 1393.767292, 1396.724305, 1410.809042, 1701.972714, 1718.934057, 1757.004308, 1790.94858, 1793.916047, 1794.884462, 1821.951153, 1825.028337, 2398.184794, 2409.224987, 2415.276517

36, Ubiquinol-cytochrome c reductase core Protein:

809.422867, 912.433323, 928.458298, 971.519443, 1024.505393, 1058.584319, 1165.635178, 1226.63751, 1256.687772, 1260.675998, 1272.67638, 1288.68258, 1351.672123, 1453.718991, 1619.793188, 1680.806972, 1792.890973, 2054.057495, 2591.349075

37, Annexin V:

744.416327, 854.522839, 1014.560263, 1056.636013, 1155.626648, 1234.730064, 1340.65689, 1461.815896, 2097.033644, 2225.105778

38, Serin-Threonin Phosphatase:

722.381041, 825.459247, 1143.634272, 1211.672472, 1235.533715, 1246.605766, 1308.630006, 1875.80354

39, Tropomyosin:

894.474634, 1045.548339, 1073.52905, 1179.602728, 1186.696107, 1201.612421, 1226.591647, 1234.651009, 1243.651841, 1308.642799, 1314.758478, 1475.742593, 1493.731082, 1514.66679, 1671.858548, 1688.7803, 1707.783568, 1710.720226, 1727.878032, 1791.74928, 1794.792138, 1799.955942, 1816.784015, 1975.975553, 2044.004557, 2211.0949, 2231.065796, 2383.928943

40, Aktin:

795.432645, 923.521871, 945.506867, 976.406325, 1132.47446, 1198.649194, 1499.605236, 1516.649156, 1547.669989, 1790.82125, 1953.997748, 2230.995912

41, Tropomyosin:

894.413779, 1045.515941, 1156.582525, 1200.645629, 1243.603545, 1284.692084, 1316.593865, 1399.69764, 1472.663239, 1543.726221, 1642.718916, 1688.753475, 1699.784717, 1727.816609, 1770.833477, 1794.757848, 1960.965675, 1998.906211, 2082.939144, 2126.987527, 2211.036482, 2213.01253

42, Aktin:

795.480333, 800.547404, 923.583376, 945.570397, 976.465968, 1132.566868, 1158.639226, 1198.756763, 1499.764765, 1516.797618, 1547.851243, 1791.019289, 1954.223906, 2231.2458

43, Tropomyosin beta chain

972.576432, 1037.484862, 1045.558171, 1090.497934, 1107.517339, 1165.560321, 1179.610603, 1193.625984, 1234.666067, 1237.601974, 1243.652788, 1256.580604, 1272.63227, 1298.71691, 1308.63499, 1320.609316, 1384.665503, 1452.743913, 1463.683749, 1475.747879, 1479.712104, 1493.722162, 1506.734113, 1540.672387, 1614.74793, 1671.861806, 1707.78306, 1742.851975, 1794.797998, 1835.907919, 1864.926253, 2088.96609, 2145.069853

44, β -Tubulin

1039.662616, 1130.669040, 1159.699155, 1245.670289, 1258.775847, 1287.805869, 1296.806668, 1794.936681

45, Myosin catalytic light chain

1025.508199, 1266.623742, 1354.772781, 1417.714607, 1738.894482, 1755.930408, 1786.891548, 1794.874903, 1904.052085, 2128.185338, 3357.734025

8.2 Massenfingerprints, SDS-Lysat

1, Rbm3

1052.48107, 1583.69303, 1607.593247, 1794.638851, 1997.861364

2, alpha-KAP

1122.611823, 1144.61129, 1154.608585, 1190.568035, 1202.572085, 1261.63013, 1265.619871, 1277.618182, 1293.61282, 1303.718792, 1403.754368, 1422.755696, 1438.746433, 1454.733314, 1470.739084, 2144.040297

3, Myosin regulatory light chain

1211.490972, 1228.526001, 1246.487653, 1262.480595, 1374.566883, 2106.791592, 2230.809538

4, Enhancer of rudimentary homolog

776.490702, 932.585318, 1033.623878, 1121.517812, 1278.701341, 1328.576059, 1863.964049, 1873.988906, 1902.853263

5, BTF3

714.425659, 860.460291, 988.560708, 3359.420595

6, EIF-4A2 homolog

796.410376, 830.476826, 895.456868, 995.565666, 1085.567093, 1173.665077, 1191.663524, 1207.657906, 1212.725897, 1403.759602, 1417.743931, 1469.786825, 1597.866432, 1794.825037, 1827.946313

7, HnRNP 2H9B

840.480617, 1007.522539, 1052.569696, 1271.642444, 1293.679075, 1308.689207, 1464.782514, 1918.969969

8, HSP 27

831.49662, 987.595613, 1088.503271, 1163.610598, 1601.758162, 1618.782594, 1639.751067, 1797.905438, 1830.932298

9, Myosin regulatory light chain

1211.55284, 1228.573439, 1253.514014, 1260.561522, 1276.55388, 1388.65169, 1415.58778, 1914.741475, 2106.881025, 2258.919676, 2447.984292

10, Myosin regulatory light chain

1211.621053, 1228.668687, 1253.589256, 1260.633937, 1276.634817, 1388.743261, 1415.669467, 1914.856443, 2107.013936, 2259.039101, 2448.10219

11, Actin related Protein 2/3 complex

775.389968, 785.417916, 817.408599, 999.578289, 1126.684463, 1461.720842

12, β -Aktin

962.39211, 994.498718, 1122.594851, 1418.799441, 1794.758774, 2071.881787, 2142.924913, 2146.937053, 2158.911784, 2172.889143, 2174.909076, 2190.906009

13, γ -Aktin

795.472268, 823.096965, 839.076843, 845.086544, 855.057072, 861.062293, 877.053353, 923.56724, 1034.120445, 1036.655664, 1050.101156, 1066.086358, 1130.562223, 1132.537528, 1164.755253, 1499.700473, 1516.730705, 1629.829227, 1790.898627

14, Aktin

795.469066, 923.569609, 1012.513944, 1036.65628, 1095.635399, 1114.595979, 1130.552995, 1134.664672, 1211.66049, 1215.63457, 1239.682056, 1367.749524, 1454.721471, 1500.72064, 1556.736563, 1641.783745, 1718.869888, 1790.893314, 2244.056976, 2350.147402

15, Vimentin

906.469032, 914.460166, 970.578287, 1042.535779, 1125.601208, 1270.646103, 1287.675544, 1443.76212, 1458.721992, 1474.724971, 1495.783785, 1510.706815, 1587.786326, 1704.810711, 1824.904539

16, Vimentin

906.472966, 1042.549118, 1125.625442, 1270.666222, 1287.705541, 1458.777103, 1495.841876, 1510.765, 1533.92062, 1539.977213, 1587.863254, 1643.74897, 1662.022998, 1666.888954, 1704.898253, 1824.967624, 2294.246333, 2551.345557

17, Vimentin

932.47548, 1060.5692, 1093.532348, 1311.67094, 1341.619682, 1371.839573, 1393.712831, 1432.747945, 1448.742279, 1527.833736, 1721.800735, 1766.802119, 1776.8624, 1782.813731, 1828.941425, 2141.882122, 2202.946799, 2218.940145

18, Aktin

976.496555, 1130.651591, 1132.630497, 1198.82042, 1795.127439, 1954.418976

19, IRK 2 channel

831.576315, 987.678796, 1088.607948, 1163.708289, 1639.881266, 1698.01495, 1798.035789, 1831.077305, 2041.034298, 2538.332352, 2767.464361

20, Actin related Protein

763.450865, 1003.502968, 1057.594627, 1188.72352, 1214.647969, 1247.708992, 1297.757553, 1342.758481, 1547.848162, 1769.106155, 2482.497017

21, β -Aktin

1132.511597, 1164.724468, 1516.689244, 1629.794234, 1639.79974, 1657.793733, 1707.774323, 1790.856778, 2231.021643, 2383.925989

22, HMG-1

916.486428, 1128.581843, 1520.886877, 1626.916539, 1794.867712

23, alpha-KAP

1122.611823, 1144.61129, 1154.608585, 1190.568035, 1202.572085, 1261.63013, 1265.619871, 1277.618182, 1293.61282, 1303.718792, 1403.754368, 1422.755696, 1438.746433, 1454.733314, 1470.739084, 2144.040297

Lebenslauf

Persönliche Daten

Name: Armin Raab
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Familienstand: ledig

Schulausbildung

1977 – 1981 Grundschole in Ritterhude und Krefeld
1981 – 1983 Gesamtschole in Rödermark
1983 – 1986 Gesamtschole in Rodgau
1986 – 1988 Berufsfachschule in Obertshausen
1988 – 1991 Berufliches Gymnasium in Obertshausen

Zivildienst

08/1991 – 10/1992 Rettungssanitäter bei der Johanniter Unfallhilfe in Rodgau

Studium

10/1992 – 03/1997 Studium der Chemie an der Technischen Universität Darmstadt

10/1995 – 12/1999 Studium der Biologie an der Technischen Universität Darmstadt
Diplomarbeit am Institut für Biochemie unter Leitung von Prof. Dr. H. G. Gassen

Seit 02/2000 Promotion am Institut für Biochemie der Technischen Universität Darmstadt unter Leitung von Prof. Dr. H. G. Gassen