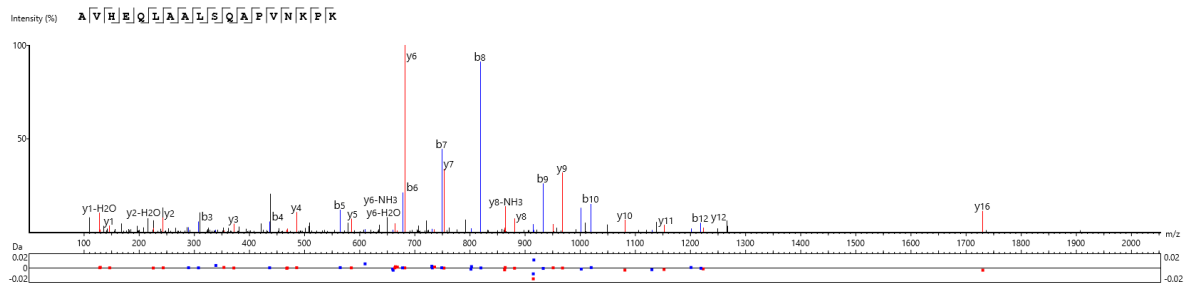


#	b	b-H2O	b-NH3	b(2+)	Seq	y	y-H2O	y-NH3	y(2+)	#
1	72.04	54.03	55.02	36.52	A					18
2	171.11	153.10	154.09	86.06	V	1803.01	1785.00	1785.99	902.01	17
3	308.17	290.16	291.14	154.59	H	1703.94	1685.93	1686.92	852.47	16
4	437.21	419.20	420.19	219.11	E	1566.88	1548.87	1549.86	783.94	15
5	565.27	547.26	548.25	283.14	Q	1437.84	1419.83	1420.82	719.42	14
6	678.36	660.35	661.33	339.68	L	1309.79	1291.77	1292.76	655.39	13
7	749.39	731.38	732.37	375.20	A	1196.70	1178.69	1179.67	598.85	12
8	820.43	802.42	803.41	410.72	A	1125.66	1107.65	1108.64	563.33	11
9	933.51	915.50	916.50	467.26	L	1054.62	1036.61	1037.60	527.81	10
10	1020.55	1002.54	1003.54	510.77	S	941.54	923.53	924.52	471.27	9
11	1148.60	1130.59	1131.59	574.80	Q	854.51	836.50	837.48	427.75	8
12	1205.63	1187.62	1188.60	603.31	G	726.45	708.44	709.42	363.73	7
13	1302.68	1284.67	1285.65	651.84	P	669.43	651.42	652.40	335.21	6
14	1415.76	1397.75	1398.74	708.38	I	572.38	554.37	555.35	286.69	5
15	1502.80	1484.79	1485.77	751.90	S	459.29	441.28	442.27	230.15	4
16	1630.89	1612.88	1613.86	815.95	K	372.26	354.25	355.23	186.63	3
17	1727.94	1709.93	1710.92	864.47	P	244.17	226.15	227.14	122.58	2
18					K	147.11	129.10	130.09	74.06	1

Representative MS/MS spectrum of the unmodified BRD2(529–546) peptide

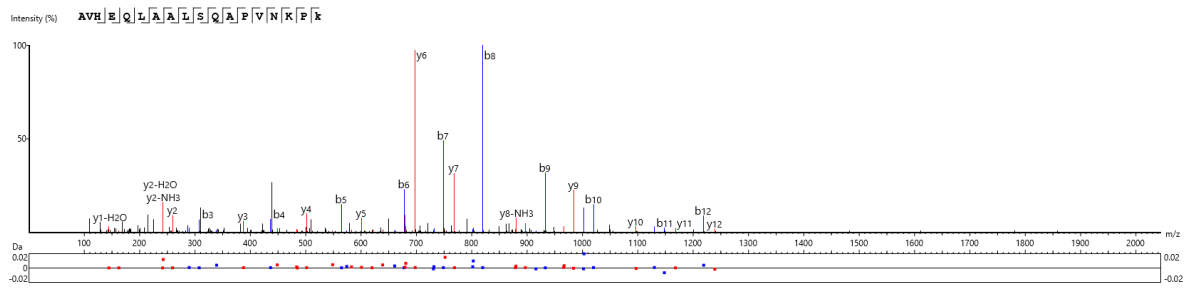
MS/MS spectrum and ion table of the unmodified BRD2(529–546) peptide in uninduced JMJD6-inducible HeLa cells at 19% O₂; scan 19353; $P < 10^{-40}$.



#	b	b-H ₂ O	b-NH ₃	b(2+)	Seq	y	y-H ₂ O	y-NH ₃	y(2+)	#
1	72.04	54.03	55.02	36.52	A					18
2	171.11	153.10	154.09	86.06	V	1830.02	1812.01	1813.00	915.50	17
3	308.17	290.16	291.14	154.59	H	1730.95	1712.94	1713.93	865.98	16
4	437.21	419.20	420.19	219.11	E	1593.90	1575.89	1576.87	797.45	15
5	565.27	547.26	548.25	283.14	Q	1464.85	1446.84	1447.83	732.93	14
6	678.36	660.34	661.33	339.68	L	1336.79	1318.78	1319.77	668.90	13
7	749.39	731.39	732.37	375.20	A	1223.71	1205.70	1206.68	612.36	12
8	820.43	802.42	803.41	410.72	A	1152.67	1134.66	1135.65	576.84	11
9	933.51	915.50	916.50	467.26	L	1081.63	1063.63	1064.61	541.32	10
10	1020.55	1002.53	1003.52	510.77	S	968.55	950.54	951.53	484.78	9
11	1148.61	1130.59	1131.58	574.80	Q	881.52	863.51	864.49	441.26	8
12	1219.64	1201.63	1202.62	610.33	A	753.46	735.45	736.44	377.23	7
13	1316.70	1298.69	1299.67	658.85	P	682.42	664.41	665.40	341.71	6
14	1415.76	1397.75	1398.74	708.38	V	585.37	567.36	568.34	293.19	5
15	1529.81	1511.80	1512.78	765.40	N	486.30	468.29	469.28	243.65	4
16	1657.90	1639.89	1640.88	829.45	K	372.26	354.25	355.23	186.63	3
17	1754.95	1736.94	1737.93	877.98	P	244.17	226.15	227.14	122.58	2
18					K	147.11	129.10	130.09	74.06	1

Representative MS/MS spectrum of the unmodified BRD3(472–489) peptide

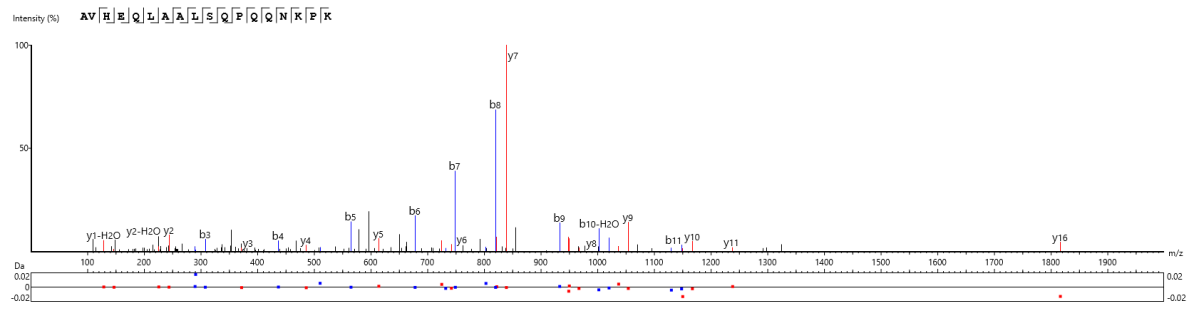
MS/MS spectrum and ion table of the unmodified BRD3(472–489) peptide in uninduced JMJD6-inducible HeLa cells at 19% O₂; scan 18213; $P < 10^{-40}$.



#	b	b-H2O	b-NH3	b(2+)	Seq	y	y-H2O	y-NH3	y(2+)	#
1	72.04	54.03	55.02	36.52	A					18
2	171.11	153.10	154.09	86.06	V	1846.02	1828.01	1828.99	923.51	17
3	308.17	290.16	291.14	154.59	H	1746.95	1728.94	1729.92	873.97	16
4	437.21	419.20	420.19	219.11	E	1609.89	1591.88	1592.86	805.45	15
5	565.27	547.26	548.25	283.14	Q	1480.85	1462.84	1463.82	740.92	14
6	678.36	660.35	661.33	339.68	L	1352.79	1334.78	1335.76	676.89	13
7	749.39	731.38	732.37	375.20	A	1239.70	1221.69	1222.68	620.35	12
8	820.43	802.42	803.41	410.72	A	1168.67	1150.66	1151.64	584.83	11
9	933.52	915.50	916.49	467.26	L	1097.63	1079.62	1080.60	549.32	10
10	1020.55	1002.54	1003.54	510.77	S	984.55	966.54	967.52	492.77	9
11	1148.60	1130.60	1131.58	574.80	Q	897.52	879.50	880.49	449.26	8
12	1219.65	1201.63	1202.62	610.32	A	769.46	751.45	752.44	385.23	7
13	1316.70	1298.69	1299.67	658.85	P	698.42	680.41	681.40	349.71	6
14	1415.76	1397.75	1398.74	708.38	V	601.37	583.36	584.34	301.18	5
15	1529.81	1511.80	1512.78	765.40	N	502.30	484.29	485.27	251.65	4
16	1657.90	1639.89	1640.88	829.45	K	388.26	370.24	371.23	194.63	3
17	1754.95	1736.94	1737.93	877.98	P	260.16	242.15	243.14	130.58	2
18					K(+15.99)	163.11	145.10	146.08	82.05	1

Representative MS/MS spectrum of the K489-hydroxylated BRD3(472–489) peptide

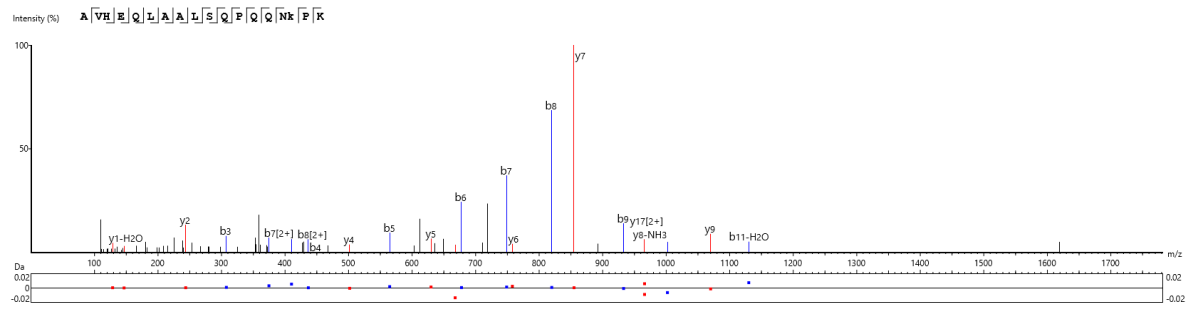
MS/MS spectrum and ion table of the K489-hydroxylated BRD3(472–489) peptide in JMJD6-inducible HeLa cells following incubation with doxycycline for 18h at 19% O₂; scan 17893; $P < 10^{-40}$.



#	b	b-H2O	b-NH3	b(2+)	Seq	y	y-H2O	y-NH3	y(2+)	#
1	72.04	54.03	55.02	36.52	A					18
2	171.11	153.10	154.09	86.06	V	1916.03	1898.02	1899.01	958.52	17
3	308.17	290.16	291.16	154.59	H	1816.95	1798.96	1799.94	908.98	16
4	437.21	419.20	420.19	219.11	E	1679.91	1661.90	1662.88	840.45	15
5	565.27	547.26	548.25	283.14	Q	1550.86	1532.85	1533.84	775.93	14
6	678.36	660.35	661.33	339.68	L	1422.81	1404.80	1405.78	711.90	13
7	749.39	731.38	732.36	375.20	A	1309.72	1291.71	1292.70	655.36	12
8	820.43	802.42	803.41	410.72	A	1238.69	1220.67	1221.66	619.84	11
9	933.52	915.50	916.49	467.26	L	1167.65	1149.64	1150.61	584.32	10
10	1020.55	1002.53	1003.52	510.78	S	1054.56	1036.55	1037.54	527.78	9
11	1148.60	1130.59	1131.58	574.80	Q	967.53	949.52	950.51	484.27	8
12	1245.66	1227.65	1228.63	623.33	P	839.47	821.46	822.45	420.24	7
13	1373.72	1355.71	1356.69	687.36	Q	742.42	724.41	725.40	371.71	6
14	1501.78	1483.77	1484.75	751.39	Q	614.36	596.35	597.34	307.68	5
15	1615.82	1597.81	1598.79	808.41	N	486.30	468.29	469.28	243.65	4
16	1743.91	1725.90	1726.89	872.46	K	372.26	354.25	355.23	186.63	3
17	1840.97	1822.96	1823.94	920.98	P	244.16	226.15	227.14	122.58	2
18					K	147.11	129.10	130.09	74.06	1

Representative MS/MS spectrum of the unmodified BRD4(520–537) peptide

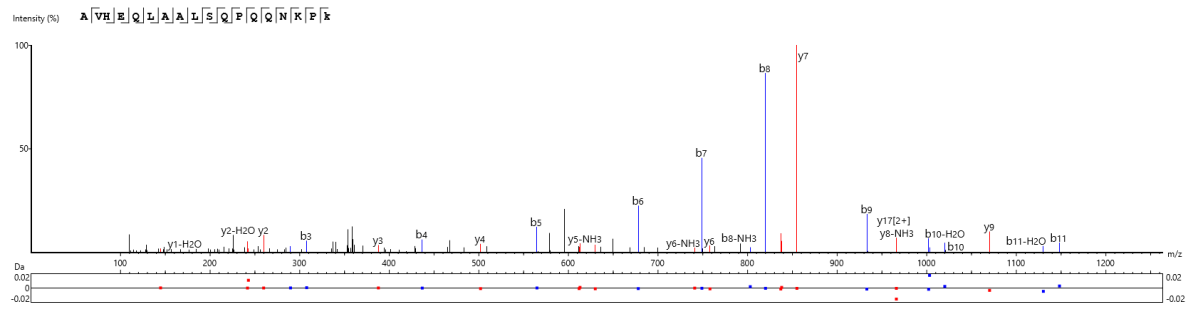
MS/MS spectrum and ion table of the unmodified BRD4(520–537) peptide in uninduced JMJD6-inducible HeLa cells at 19% O₂; scan 13877; $P < 10^{-40}$.



#	b	b-H2O	b-NH3	b(2+)	Seq	y	y-H2O	y-NH3	y(2+)	#
1	72.04	54.03	55.02	36.52	A					18
2	171.11	153.10	154.09	86.06	V	1932.03	1914.02	1915.00	966.51	17
3	308.17	290.16	291.14	154.59	H	1832.96	1814.95	1815.93	916.98	16
4	437.21	419.20	420.19	219.11	E	1695.90	1677.89	1678.88	848.45	15
5	565.27	547.26	548.25	283.14	Q	1566.86	1548.85	1549.83	783.93	14
6	678.36	660.35	661.33	339.68	L	1438.80	1420.79	1421.77	719.90	13
7	749.39	731.38	732.37	375.20	A	1325.72	1307.71	1308.69	663.36	12
8	820.43	802.42	803.40	410.72	A	1254.68	1236.67	1237.65	627.84	11
9	933.51	915.50	916.49	467.26	L	1183.64	1165.63	1166.62	592.32	10
10	1020.55	1002.53	1003.52	510.77	S	1070.56	1052.55	1053.53	535.78	9
11	1148.61	1130.60	1131.58	574.80	Q	983.53	965.52	966.51	492.26	8
12	1245.66	1227.65	1228.63	623.33	P	855.47	837.46	838.44	428.23	7
13	1373.72	1355.71	1356.69	687.36	Q	758.42	740.40	741.39	379.71	6
14	1501.78	1483.77	1484.75	751.39	Q	630.36	612.35	613.33	315.68	5
15	1615.82	1597.81	1598.79	808.41	N	502.30	484.29	485.27	251.65	4
16	1759.91	1741.90	1742.88	880.45	K(+15.99)	388.26	370.24	371.23	194.63	3
17	1856.96	1838.95	1839.93	928.98	P	244.17	226.15	227.14	122.58	2
18					K	147.11	129.10	130.09	74.06	1

Representative MS/MS spectrum of the K535-hydroxylated BRD4(520–537) peptide

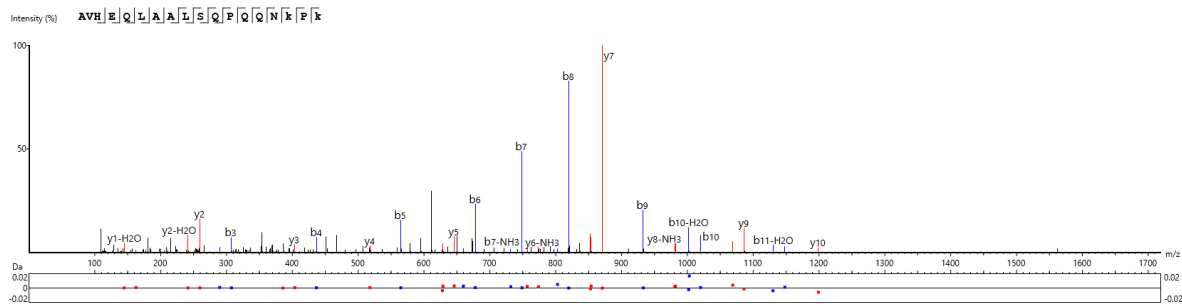
MS/MS spectrum and ion table of the K535-hydroxylated BRD4(520–537) peptide in JMJD6-inducible HeLa cells following incubation with doxycycline for 18h at 19% O₂; scan 13382; $P < 10^{-40}$.



#	b	b-H2O	b-NH3	b(2+)	Seq	y	y-H2O	y-NH3	y(2+)	#
1	72.04	54.03	55.02	36.52	A					18
2	171.11	153.10	154.09	86.06	V	1932.03	1914.02	1915.00	966.50	17
3	308.17	290.16	291.14	154.59	H	1832.96	1814.95	1815.93	916.98	16
4	437.21	419.20	420.19	219.11	E	1695.90	1677.89	1678.88	848.45	15
5	565.27	547.26	548.25	283.14	Q	1566.86	1548.85	1549.83	783.93	14
6	678.36	660.35	661.33	339.68	L	1438.80	1420.79	1421.77	719.90	13
7	749.39	731.38	732.37	375.20	A	1325.72	1307.71	1308.69	663.36	12
8	820.43	802.42	803.41	410.72	A	1254.68	1236.67	1237.65	627.84	11
9	933.51	915.50	916.49	467.26	L	1183.64	1165.63	1166.62	592.32	10
10	1020.55	1002.53	1003.54	510.77	S	1070.56	1052.55	1053.53	535.78	9
11	1148.61	1130.59	1131.58	574.80	Q	983.53	965.52	966.50	492.26	8
12	1245.66	1227.65	1228.63	623.33	P	855.47	837.46	838.44	428.23	7
13	1373.72	1355.71	1356.69	687.36	Q	758.41	740.40	741.39	379.71	6
14	1501.78	1483.77	1484.75	751.39	Q	630.36	612.35	613.33	315.68	5
15	1615.82	1597.81	1598.79	808.41	N	502.30	484.29	485.27	251.65	4
16	1743.91	1725.90	1726.89	872.46	K	388.26	370.24	371.23	194.63	3
17	1840.97	1822.96	1823.94	920.98	P	260.16	242.15	243.14	130.58	2
18					K(+15.99)	163.11	145.10	146.08	82.05	1

Representative MS/MS spectrum of the K537-hydroxylated BRD4(520–537) peptide

MS/MS spectrum and ion table of the K537-hydroxylated BRD4(520–537) peptide in JMJD6-inducible HeLa cells following incubation with doxycycline for 18h at 19% O₂; scan 13726; $P < 10^{-40}$.



#	b	b-H2O	b-NH3	b(2+)	Seq	y	y-H2O	y-NH3	y(2+)	#
1	72.04	54.03	55.02	36.52	A					18
2	171.11	153.10	154.09	86.06	V	1948.02	1930.01	1931.00	974.51	17
3	308.17	290.16	291.14	154.59	H	1848.96	1830.95	1831.93	924.98	16
4	437.21	419.20	420.19	219.11	E	1711.90	1693.89	1694.87	856.45	15
5	565.27	547.26	548.25	283.14	Q	1582.85	1564.84	1565.83	791.93	14
6	678.36	660.35	661.33	339.68	L	1454.80	1436.79	1437.77	727.90	13
7	749.39	731.38	732.37	375.20	A	1341.71	1323.70	1324.69	671.36	12
8	820.43	802.42	803.41	410.72	A	1270.67	1252.66	1253.65	635.84	11
9	933.51	915.50	916.49	467.26	L	1199.63	1181.63	1182.61	600.32	10
10	1020.55	1002.53	1003.54	510.77	S	1086.55	1068.54	1069.53	543.78	9
11	1148.61	1130.59	1131.58	574.80	Q	999.52	981.51	982.50	500.26	8
12	1245.66	1227.65	1228.63	623.33	P	871.46	853.45	854.44	436.23	7
13	1373.72	1355.71	1356.69	687.36	Q	774.41	756.40	757.39	387.71	6
14	1501.78	1483.77	1484.75	751.39	Q	646.35	628.34	629.33	323.68	5
15	1615.82	1597.81	1598.79	808.41	N	518.29	500.28	501.27	259.65	4
16	1759.91	1741.90	1742.88	880.45	K(+15.99)	404.25	386.24	387.22	202.63	3
17	1856.96	1838.95	1839.93	928.98	P	260.16	242.15	243.13	130.58	2
18					K(+15.99)	163.11	145.10	146.08	82.05	1

Representative MS/MS spectrum of BRD4(520–537) peptide doubly hydroxylated at K535 and K537

MS/MS spectrum and ion table of the BRD4(520–537) peptide doubly hydroxylated at K535 and K537 in JMJD6-inducible HeLa cells following incubation with doxycycline for 18h at 19% O₂; scan 13229; $P < 10^{-40}$.