

- A**  
 Abe, K. 1310  
 Abraham, S.M. 1018  
 Alcaro, L. 1228  
 Alexander, S.P.H. 1095  
 Al-Gazzar, A. 1246  
 Amato, E. 1228  
 Arnaoutakis, K. 1141  
 Arthur, J.S.C. 1107  
 Attrill, H. 1024  
 Avril, T. 1024

- B**  
 Baird, A.E. 1313  
 Balding, P.R. 1178  
 Bancos, S. 1199  
 Barron, R.M. 1155  
 Bastide, M. 1341  
 Bazan, N.G. 1277  
 Belandia, B. 1124  
 Belfield, E.J. 1223  
 Bennett, A.J. 1095  
 Bernhardt, R. 1215  
 Bevan, C.L. 1124  
 Bingham, A.J. 1138  
 Bishop, G. 1199  
 Bishop, M.T. 1155  
 Bode, M. 1241  
 Bohlmann, J. 1209  
 Bonecchi, R. 1014  
 Bordet, R. 1341  
 Borroni, E.M. 1014  
 Bose, D. 1067  
 Brooke, G.N. 1124  
 Buchan, A.M. 1318  
 Buck, M. 1067  
 Buracchi, C. 1014  
 Burrows, P. 1067  
 Busby, S.J.W. 1075

- C**  
 Callewaert, L. 1089  
 Cancellotti, E. 1155  
 Cannon, W. 1067  
 Carswell, H.V. 1362  
 Casey, R. 1223  
 Castle, J. 1199  
 Catterall, W.A. 1299  
 Cesaro, L. 1303  
 Chamorro, Á. 1267  
 Chan, P.H. 1283, 1366  
 Chinetti, G. 1128  
 Chotai, D. 1124  
 Christian, M. 1103  
 Chun, Y.-J. 1183  
 Claessens, F. 1089  
 Clark, A.R. 1018  
 Collins, H.F. 1173  
 Cook, P.R. 1133  
 Cools, H.J. 1219  
 Corsi, I. 1228  
 Cramer, P. 1058  
 Crandall, T. 1366  
 Crocker, P.R. 1024  
 Culmsee, C. 1334  
 Cummins, C.L. 1110

- D**  
 Dart, D.A. 1124  
 Davies, P. 1098  
 Dawson, T.M. 1307  
 Dawson, V.L. 1307  
 Deguchi, K. 1310  
 Della Torre, C. 1228  
 del Zoppo, G.J. 1261  
 Deng, W. 1051  
 Deplanque, D. 1341  
 Doddapaneni, H. 1165  
 Dolton, G.M. 1041  
 Duff, J. 1098  
 Dunford, A.J. 1178  
 Duriez, P. 1341

- E**  
 Ehlting, J. 1192  
 Endo, H. 1283

- F**  
 Faro-Trindade, I. 1133  
 Feyereisen, R. 1252  
 Fisher, M. 1271  
 Focardi, S. 1228  
 Foka, P. 1141  
 Fraaije, B.A. 1219  
 Frebel, K. 1287  
 Fruchart, J.C. 1128, 1341

- G**  
 Gagnon-Kugler, T. 1079  
 Galliera, E. 1014  
 Gamble, S.C. 1124  
 Gartland, K.M.A. 1151  
 Gautier, S. 1341  
 Geiduschek, E.P. 1082  
 Gelé, P. 1341  
 Gilbert, L.I. 1256  
 Ginsberg, M.D. 1323  
 Girvan, H.M. 1173, 1178  
 Glawischnig, E. 1206  
 Good, L. 1148  
 Gorina, R. 1267  
 Graham, G.J. 1002  
 Graham, S.V. 1145  
 Griffiths, W.J. 1246  
 Guengerich, F.P. 1183  
 Gustafsson, J.-Å. 1114  
 Gwyer, E. 1032

- H**  
 Haelens, A. 1089  
 Hallenbeck, J.M. 1295  
 Hamberger, B. 1209  
 Hannemann, F. 1215  
 Hansell, C.A.H. 1009  
 Hargrove, T.Y. 1161  
 Harrison, K. 1199  
 Hart, P. 1155  
 Herrmann, O. 1291  
 Hill, M.D. 1323  
 Hsieh, L. 1366  
 Hsu, J.-Y. 1047  
 Hughes, R.K. 1223  
 Hung, S. 1261  
 Hussell, T. 1032

- I**  
 Inta, I. 1291  
 Irvine, S.A. 1141
- J**  
 Joly, N. 1067  
 Joussen, N. 1241  
 Jungmann, V. 1236  
 Juven-Gershon, T. 1047

- K**  
 Kaderbhai, M.A. 1231  
 Kaderbhai, N.N. 1231  
 Kadonaga, J.T. 1047  
 Kamiya, T. 1310  
 Kamiya, Y. 1199  
 Kassavetis, G.A. 1082  
 Kelly, D.E. 1159  
 Kelly, S.L. 1159, 1231  
 Kendall, D.A. 1095  
 Kim, S.H. 1219  
 Klumpp, S. 1370  
 Koziol, J.A. 1261  
 Kriegstein, J. 1370  
 Kushiro, T. 1199

- L**  
 Lamb, D.C. 1159  
 Landick, R. 1062  
 Lane, C. 1246  
 Langlois, F. 1079  
 Laprais, M. 1341  
 Lavery, D.N. 1054  
 Lee, Y.-J. 1295  
 Lepesheva, G.I. 1161  
 Leys, D. 1173, 1178  
 Lightman, S.L. 1117  
 Lisurek, M. 1215  
 Locati, M. 1014  
 Lu, C.-Z. 1327  
 Lucas, J.A. 1219  
 Lukiw, W.J. 1277

- M**  
 Mabuchi, T. 1261  
 Macrae, I.M. 1362  
 Maier, C.M. 1366  
 Mangelsdorf, D.J. 1110  
 Manson, J.C. 1155  
 Mantovani, A. 1014  
 Marshall, K.R. 1178  
 Martinez de la Torre, Y. 1014  
 Matthews, R.J. 1041  
 McEwan, I.J. 1054, 1098  
 McKimmie, C.S. 1002  
 McLean, K.J. 1173, 1178  
 McPhillips, M.G. 1145  
 Meggio, F. 1303  
 Milner, R. 1261  
 Miroslavova, N.S. 1075  
 Mitchell, J.E. 1075  
 Mizutani, M. 1202  
 Moehren, U. 1089  
 Mole, S. 1145  
 Molnár, I. 1236  
 Montoya, T. 1199  
 Morikawa, T. 1202  
 Moss, T. 1079

- Munro, A.W. 1173, 1178  
 Murray, P.J. 1028
- N**  
 Narasimhan, P. 1366  
 Neeli, R. 1173, 1178  
 Nes, W.D. 1161  
 Nibbs, R.J.B. 1009  
 Niquet, J. 1347  
 Nomura, T. 1199

- O**  
 Ohta, D. 1202  
 Okano, H. 1310  
 Ooi, L. 1138  
 Ortiz de Montellano, P.R. 1170  
 Ott, R.D. 1161  
 Ouk, T. 1341

- P**  
 Pachlatko, J.P. 1236  
 Pagano, M.A. 1303  
 Palesch, Y.Y. 1323  
 Pandey, A.V. 1186  
 Papadakis, M. 1318  
 Pape, T. 1067  
 Parker, M.G. 1103  
 Pavlov, V.A. 1037  
 Petralta, O. 1341  
 Pinna, L.A. 1303  
 Planas, A.M. 1267  
 Plesnila, N. 1334  
 Powell, S.M. 1124  
 Proost, P. 997  
 Provart, N.J. 1192  
 Pruenster, M. 1005

- R**  
 Ramji, D.P. 1141  
 Raper, A. 1024  
 Rappas, M. 1067  
 Reebye, V. 1124  
 Rewitz, K.F. 1256  
 Roberts, S.G.E. 1051  
 Rot, A. 1005  
 Rybczynski, R. 1256

- S**  
 Sabri, M. 1178  
 Saito, A. 1283  
 Sathish, J.G. 1041  
 Sawamoto, K. 1310  
 Schäbitz, W.-R. 1271  
 Scheuer, T. 1299  
 Schmidt, B. 1241  
 Schuklenk, U. 1151  
 Schumacher, J. 1067  
 Schuphan, I. 1241  
 Schwaninger, M. 1291  
 Scrutton, N.S. 1173  
 Seibert, C. 1246  
 Seo, D.-W. 1347  
 Seward, H.E. 1178  
 Sharif, A. 1246  
 Shimada, T. 1183  
 Simgen, B. 1215  
 Simon, R. 1356  
 Simpson, C.V. 1009

Singh, N.N. 1141  
Snelgrove, R. 1032  
Staels, B. 1128, 1341  
Stefanovsky, V. 1079  
Stege, J. 1236  
Stenzel-Poore, M.P. 1352  
Stevens, S.L. 1352  
Struyf, S. 997  
Subramanian, V. 1165  
Sun, Y. 1095  
Szalnári, A.-M. 1199  
Szekeres, M. 1199

**T**

Tanner, T. 1089  
Tebbutt, J. 1075

Thissen, M.-C. 1370  
Thomas, C.M. 1072  
Timmons, J.A. 1148  
Tracey, K.J. 1037  
Trefzer, A. 1236

**V**

Van Damme, J. 997  
Vecchi, A. 1014  
Veerapraditsin, T. 1145  
Verras, A. 1170  
Verrijdt, G. 1089  
Virus, C. 1215

**W**

Wada-Hiraike, O. 1114

Waltham, T.N. 1173  
Wang, X. 1261  
Wang, Y. 1246  
Warner, M. 1114  
Warren, J.T. 1256  
Wasterlain, C.G. 1347  
Waterman, M.R. 1161, 1183  
Watt, K. 1098  
Werck-Reichhart, D. 1192  
Whitaker, H.C. 1124  
White, R. 1103  
Wiese, S. 1287  
Wigneshweraraj, S. 1067  
Wingate, A.D. 1107  
Wood, I.C. 1138  
Wright, M.C. 1119

**X**

Xiao, B.-G. 1327  
Xiong, Z. 1356

**Y**

Yadav, J.S. 1165  
Yamaguchi, S. 1199  
Yamashita, T. 1310  
Yokota, T. 1199

**Z**

Zhang, J. 1024  
Zhang, X. 1067

- Abe, K. 1310  
Abraham, S.M. 1018  
Alcaro, L. 1228  
Alexander, S.P.H. 1095  
Al-Gazzar, A. 1246  
Amato, E. 1228  
Arnaoutakis, K. 1141  
Arthur, J.S.C. 1107  
Attrill, H. 1024  
Avril, T. 1024
- Baird, A.E. 1313  
Balding, P.R. 1178  
Bancos, S. 1199  
Barron, R.M. 1155  
Bastide, M. 1341  
Bazan, N.G. 1277  
Belandia, B. 1124  
Belfield, E.J. 1223  
Bennett, A.J. 1095  
Bernhardt, R. 1215  
Bevan, C.L. 1124  
Bingham, A.J. 1138  
Bishop, G. 1199  
Bishop, M.T. 1155  
Bode, M. 1241  
Bohlmann, J. 1209  
Bonecchi, R. 1014  
Bordet, R. 1341  
Borroni, E.M. 1014  
Bose, D. 1067  
Brooke, G.N. 1124  
Buchan, A.M. 1318  
Buck, M. 1067  
Buracchi, C. 1014  
Burrows, P. 1067  
Busby, S.J.W. 1075
- Callewaert, L. 1089  
Cancelotti, E. 1155  
Cannon, W. 1067  
Carswell, H.V. 1362  
Casey, R. 1223  
Castle, J. 1199  
Catterall, W.A. 1299  
Cesaro, L. 1303  
Chamorro, Á. 1267  
Chan, P.H. 1283, 1366  
Chinetti, G. 1128  
Chotai, D. 1124  
Christian, M. 1103  
Chun, Y.-J. 1183  
Claessens, F. 1089  
Clark, A.R. 1018  
Collins, H.F. 1173  
Cook, P.R. 1133  
Cools, H.J. 1219  
Corsi, I. 1228  
Cramer, P. 1058  
Crandall, T. 1366  
Crocker, P.R. 1024  
Culmsee, C. 1334  
Cummins, C.L. 1110
- Dart, D.A. 1124  
Davies, P. 1098  
Dawson, T.M. 1307  
Dawson, V.L. 1307
- Deguchi, K. 1310  
Della Torre, C. 1228  
del Zoppo, G.J. 1261  
Deng, W. 1051  
Deplanque, D. 1341  
Doddapaneni, H. 1165  
Dolton, G.M. 1041  
Duff, J. 1098  
Dunford, A.J. 1178  
Duriez, P. 1341
- Ehlting, J. 1192  
Endo, H. 1283
- Faro-Trindade, I. 1133  
Feyereisen, R. 1252  
Fisher, M. 1271  
Focardi, S. 1228  
Foka, P. 1141  
Fraaije, B.A. 1219  
Frebel, K. 1287  
Fruchart, J.C. 1128, 1341
- Gagnon-Kugler, T. 1079  
Galliera, E. 1014  
Gamble, S.C. 1124  
Gartland, K.M.A. 1151  
Gautier, S. 1341  
Geiduschek, E.P. 1082  
Gelé, P. 1341  
Gilbert, L.I. 1256  
Ginsberg, M.D. 1323  
Girvan, H.M. 1173, 1178  
Glawischnig, E. 1206  
Good, L. 1148  
Gorina, R. 1267  
Graham, G.J. 1002  
Graham, S.V. 1145  
Griffiths, W.J. 1246  
Guengerich, F.P. 1183  
Gustafsson, J.-Å. 1114  
Gwyer, E. 1032
- Haelens, A. 1089  
Hallenbeck, J.M. 1295  
Hamberger, B. 1209  
Hannemann, F. 1215  
Hansell, C.A.H. 1009  
Hargrove, T.Y. 1161  
Harrison, K. 1199  
Hart, P. 1155  
Herrmann, O. 1291  
Hill, M.D. 1323  
Hsieh, L. 1366  
Hsu, J.-Y. 1047  
Hughes, R.K. 1223  
Hung, S. 1261  
Hussell, T. 1032
- Inta, I. 1291  
Irvine, S.A. 1141
- Joly, N. 1067  
Joussen, N. 1241  
Jungmann, V. 1236  
Juven-Gershon, T. 1047
- Kaderbhai, M.A. 1231
- Kaderbhai, N.N. 1231  
Kadonaga, J.T. 1047  
Kamiya, T. 1310  
Kamiya, Y. 1199  
Kassavetis, G.A. 1082  
Kelly, D.E. 1159  
Kelly, S.L. 1159, 1231  
Kendall, D.A. 1095  
Kim, S.H. 1219  
Klumpp, S. 1370  
Koziol, J.A. 1261  
Kriegstein, J. 1370  
Kushiro, T. 1199
- Lamb, D.C. 1159  
Landick, R. 1062  
Lane, C. 1246  
Langlois, F. 1079  
Laprais, M. 1341  
Lavery, D.N. 1054  
Lee, Y.-J. 1295  
Lepesheva, G.I. 1161  
Leys, D. 1173, 1178  
Lightman, S.L. 1117  
Lisurek, M. 1215  
Locati, M. 1014  
Lu, C.-Z. 1327  
Lucas, J.A. 1219  
Lukiw, W.J. 1277
- Mabuchi, T. 1261  
Macrae, I.M. 1362  
Maier, C.M. 1366  
Mangelsdorf, D.J. 1110  
Manson, J.C. 1155  
Mantovani, A. 1014  
Marshall, K.R. 1178  
Martinez de la Torre, Y. 1014  
Matthews, R.J. 1041  
McEwan, I.J. 1054, 1098  
McKimmie, C.S. 1002  
McLean, K.J. 1173, 1178  
McPhillips, M.G. 1145  
Meggio, F. 1303  
Milner, R. 1261  
Miroslavova, N.S. 1075  
Mitchell, J.E. 1075  
Mizutani, M. 1202  
Moehren, U. 1089  
Mole, S. 1145  
Molnár, I. 1236  
Montoya, T. 1199  
Morikawa, T. 1202  
Moss, T. 1079  
Munro, A.W. 1173, 1178  
Murray, P.J. 1028
- Narasimhan, P. 1366  
Neeli, R. 1173, 1178  
Nes, W.D. 1161  
Nibbs, R.J.B. 1009  
Niquet, J. 1347  
Nomura, T. 1199
- Ohta, D. 1202  
Okano, H. 1310  
Ooi, L. 1138  
Ortiz de Montellano, P.R. 1170

- Ott, R.D. 1161  
Ouk, T. 1341  
  
Pachlatko, J.P. 1236  
Pagano, M.A. 1303  
Palesch, Y.Y. 1323  
Pandey, A.V. 1186  
Papadakis, M. 1318  
Pape, T. 1067  
Parker, M.G. 1103  
Pavlov, V.A. 1037  
Petrault, O. 1341  
Pinna, L.A. 1303  
Planas, A.M. 1267  
Plesnila, N. 1334  
Powell, S.M. 1124  
Proost, P. 997  
Provart, N.J. 1192  
Pruenster, M. 1005  
  
Ramji, D.P. 1141  
Raper, A. 1024  
Rappas, M. 1067  
Reebye, V. 1124  
Rewitz, K.F. 1256  
Roberts, S.G.E. 1051  
Rot, A. 1005  
Rybaczynski, R. 1256  
  
Sabri, M. 1178  
Saito, A. 1283  
Sathish, J.G. 1041  
Sawamoto, K. 1310  
Schäbitz, W.-R. 1271  
Scheuer, T. 1299  
  
Schmidt, B. 1241  
Schuklenk, U. 1151  
Schumacher, J. 1067  
Schuphan, I. 1241  
Schwaninger, M. 1291  
Scrutton, N.S. 1173  
Seibert, C. 1246  
Seo, D.-W. 1347  
Seward, H.E. 1178  
Sharif, A. 1246  
Shimada, T. 1183  
Simgen, B. 1215  
Simon, R. 1356  
Simpson, C.V. 1009  
Singh, N.N. 1141  
Snelgrove, R. 1032  
Staels, B. 1128, 1341  
Stefanovsky, V. 1079  
Stege, J. 1236  
Stenzel-Poore, M.P. 1352  
Stevens, S.L. 1352  
Struyf, S. 997  
Subramanian, V. 1165  
Sun, Y. 1095  
Szatmári, A.-M. 1199  
Szekeres, M. 1199  
  
Tanner, T. 1089  
Tebbutt, J. 1075  
Thissen, M.-C. 1370  
Thomas, C.M. 1072  
Timmons, J.A. 1148  
Tracey, K.J. 1037  
Trefzer, A. 1236  
  
Van Damme, J. 997  
Vecchi, A. 1014  
Veerapraditsin, T. 1145  
Verras, A. 1170  
Verrijdt, G. 1089  
Virus, C. 1215  
  
Wada-Hiraike, O. 1114  
Waltham, T.N. 1173  
Wang, X. 1261  
Wang, Y. 1246  
Warner, M. 1114  
Warren, J.T. 1256  
Wasterlain, C.G. 1347  
Waterman, M.R. 1161, 1183  
Watt, K. 1098  
Werck-Reichhart, D. 1192  
Whitaker, H.C. 1124  
White, R. 1103  
Wiese, S. 1287  
Wigneshweraraj, S. 1067  
Wingate, A.D. 1107  
Wood, I.C. 1138  
Wright, M.C. 1119  
  
Xiao, B.-G. 1327  
Xiong, Z. 1356  
  
Yadav, J.S. 1165  
Yamaguchi, S. 1199  
Yamashita, T. 1310  
Yokota, T. 1199  
  
Zhang, J. 1024  
Zhang, X. 1067

- A**
- acidotoxicity, 1356
  - acid-sensing ion channel (ASIC), 1356
  - action potential, 1299
  - activation of transcription, 1075
  - adipocyte, 1103
  - adrenal gland, 1110
  - Akt, 1295
  - albumin, 1323
  - allene oxide synthase (AOS), 1192, 1223
  - Alzheimer's disease, 1277
  - amyloid  $\beta$ -peptide ( $A\beta$ ), 1277
  - androgen receptor, 1089, 1124
  - angiogenesis, 1327
  - anti-androgen, 1124
  - anti-apoptosis, 1327
  - antigen-presenting cell, 1032
  - anti-inflammatory cytokine, 1267
  - apolipoprotein E, 1141
  - apoptosis, 1114, 1283, 1287, 1303, 1370
  - apoptosis inducing factor (AIF), 1334, 1347
  - Arabidopsis*, 1192, 1199, 1206
  - atherosclerosis, 1141
  - ATPase associated with various cellular activities activator (AAA<sup>+</sup> activator), 1067
  - ATP hydrolysis, 1067
  - atrial natriuretic peptide, 1138
  - atypical chemokine receptor, 1009
  - autoimmune disease, 1041
  - autoimmunity, 1032
  - avermectin, 1236
  - azole binding, 1170, 1178
- B**
- Bacillus*, 1173
  - bacterial cytochrome P450, 1215
  - bacterial enhancer binding protein, 1067
  - bacterium, 1072
  - basal transcription factor, 1054
  - Bcl-2-associated athanogene 1 (Bag1), 1287
  - Bdp1, 1082
  - bicalutamide, 1124
  - Bid, 1334
  - biocatalysis, 1236
  - biodiversity, 1148, 1161
  - biomarker, 1159
  - biotransformation, 1231
  - bird flu, 1151
  - blood-brain barrier, 1261, 1366
  - blood genomic profiling, 1313
  - BM3, 1173
  - bovine spongiform encephalopathy (BSE), 1155
  - brain, 1307
  - brain injury, 1366
  - brain ischaemia, 1356
  - brain natriuretic peptide, 1138
  - brassicasterol, 1202
  - brassinolide, 1199
  - brassinosteroid, 1199
  - Brf1, 1082
  - budding yeast, 1082
- C**
- calcium, 1356
- camalexin, 1206
- cAMP receptor protein (CRP), 1075
- cancer, 1114
- cannabinoid receptor (CB receptor), 1095
- cardiac hypertrophy, 1138
- caspase, 1334, 1347
- catalytic activity, 1161
- catenin, 1114
- CC chemokine, 1002
- CC chemokine receptor (CCR), 1014
- CD45, 1041
- cell differentiation, 1133
- cell survival, 1107
- cellular proliferation, 1114
- central nervous system (CNS), 1095
- cerebral ischaemia, 1291, 1310, 1327, 1341, 1362, 1366
- chemoattractant, 1014
- chemokine, 997, 1005
- chemokine sequestration, 1009
- chemotaxis, 997
- cholesterol, 1110, 1128
- cholesterol homoeostasis, 1141
- cholinergic anti-inflammatory pathway, 1037
- chromatin, 1138
- chromatin loop, 1133
- chromatin remodelling, 1103
- chronic wasting disease (CWD), 1155
- cis-acting RNA element, 1145
- clinical trial, 1271
- co-expression analysis, 1192
- colonic epithelium, 1114
- conformational mobility, 1170
- conifer, 1209
- core promoter, 1051
- corticosterone, 1110, 1117
- co-stimulation, 1032
- Creutzfeldt-Jakob disease (CJD), 1155
- crystal structure, 1051, 1089
- cytochrome *b*<sub>5</sub>, 1231
- cytochrome *c*, 1186, 1283, 1334
- cytochrome P450 (CYP/P450), 1159, 1161, 1165, 1170, 1173, 1178, 1183, 1186, 1192, 1199, 1202, 1209, 1215, 1219, 1223, 1228, 1231, 1236, 1241, 1246, 1252, 1256
- cytochrome P450 1A (CYP1A), 1228
- cytochrome P450 51 (CYP51), 1161, 1219
- cytochrome P450 63 (CYP63), 1165
- cytochrome P450 subfamily 7A (CYP7A), 1223
- cytochrome P450 79B2 (CYP79B2), 1206
- cytochrome P450 85 clan (CYP85), 1209
- cytochrome P450 101 (CYP101), 1170
- cytochrome P450 102 (CYP102), 1173
- cytochrome P450 121 (CYP121), 1178
- cytochrome P450 710A (CYP710A), 1202
- cytochrome P450 106A2 (CYP106A2), 1215
- cytochrome P450 reductase, 1186
- cytokine, 1018
- cytoprotection, 1295
- cytosolic phospholipase A<sub>2</sub>, 1277
- D**
- D6, 1002, 1009
  - decoy receptor, 1014
  - depolarization, 1299
- detergent micelle, 1223
- dihydrotestosterone, 1098
- dimerization, 1089
- directed evolution, 1215
- diterpene resin acid (DRA), 1209
- DNA binding, 1089
- DNA opening, 1067
- docosahexaenoic acid (DHA), 1277
- downstream core promoter element (DPE), 1047
- Drosophila melanogaster*, 1252
- druggable kinase, 1303
- drug metabolism, 1186
- dual-specificity phosphatase (DUSP), 1018
- Duffy antigen, 1005, 1014
- Duffy antigen receptor for chemokines (DARC), 1009
- dwarfism, 1199
- dystroglycan, 1261
- E**
- ecdysone, 1256
  - electron transfer, 1173
  - electron transport, 1183
  - emamectin benzoate, 1236
  - endocytosis, 1024
  - endothelial cell, 1005, 1366, 1370
  - epigenetics, 1148
  - epithelial differentiation, 1145
  - erythrocyte, 1005
  - Escherichia coli*, 1183, 1231
  - 7-ethoxyresorufin-O-de-ethylase (EROD), 1228
  - European eel [*Anguilla anguilla* (Linnaeus, 1758)], 1228
  - evolution, 1252
  - excitotoxicity, 1307
  - extracellular matrix, 1261
- F**
- fatty acid, 1370
  - ferredoxin, 1183, 1236
  - ferredoxin reductase, 1183
  - fibrosis, 1119
  - flavocytochrome, 1173
  - Fn14, 1291
  - focal cerebral ischaemia, 1323
  - focal ischaemia, 1261
  - fungicide, 1219
- G**
- gene expression, 1138, 1141
  - gene expression profiling, 1313
  - gene reassembly, 1236
  - gene regulation, 1062
  - genome organization, 1133
  - global cerebral ischaemia, 1283
  - glucocorticoid, 1018, 1117
  - glutamate, 1356
  - G-protein-coupled receptor (GPCR), 1095
  - granulocyte colony-stimulating factor (GCSF), 1327
  - growth factor, 1079
- H**
- haem, 1173, 1178, 1223
  - haemopoietic stem cell, 1327
  - haemoprotein, 1231

Halloween gene, 1256  
 health policy, 1151  
*Hey1*, 1124  
 hibernation, 1295  
 histone methyltransferase, 1058  
 HIV, 997  
 horizontal gene transfer, 1165  
 hormone replacement therapy, 1362  
 human androgen receptor, 1098  
 human papillomavirus type 16 (HPV-16),  
   1145  
 hydroperoxide lyase, 1223  
 20-hydroxyecdysone, 1256  
 hypoxia/ischaemia, 1347

**I**

imidazole, 1170  
 immune pathology, 1032  
 immune response, 1002, 1009, 1028  
 immune system, 1267  
 immunoglobulin (Ig) superfamily, 1024  
 imprinting, 1148  
 inflammation, 997, 1002, 1014, 1018,  
   1028, 1037, 1119  
 influenza, 1151  
 inhibitory  $\kappa$ B ( $I\kappa$ B) kinase (IKK), 1291  
 inhibitory receptor, 1032  
 initiator (Inr), 1047  
 injury, 1356  
 innate immune response, 1018  
 innate immune system, 1024  
 insect genome, 1252  
 integrin, 1261  
 interceptor, 1005  
 interleukin-6, 1310  
 interleukin-10 (IL-10), 1028  
 intracerebral haemorrhage, 1318  
 ischaemia, 1267, 1295, 1307  
 ischaemic injury, 1352  
 ischaemic stroke, 1313

**J**

Janus kinase/signal transducer and activator of transcription pathway (JAK/STAT pathway), 1267

**K**

kinase inhibitor, 1303  
 kinetic analysis, 1075

**L**

leucocyte, 1002, 1009, 1014, 1024, 1313  
 leucocyte trafficking, 1005  
 ligand-binding domain, 1098  
 lipid metabolism, 1110  
 lipopolysaccharide (LPS), 1352  
 lipoprotein, 1370  
 lipoprotein lipase (LPL), 1141  
 liquid chromatography-MS, 1246  
 liver, 1119  
 liver X receptor (LXR), 1110, 1128  
 lymphatic endothelium, 1002  
 Lyp, 1041

**M**

macrophage, 1028, 1128  
 mammalian cell, 1079

matrix adhesion receptor, 1261  
 metabolic pathway, 1192  
 metabolism, 1103  
 middle cerebral artery occlusion, 1095,  
   1362  
 mitochondrion, 1252, 1283, 1334, 1347  
 mitogen-activated protein kinase (MAPK),  
   1018  
 molten globule, 1054  
 motif ten element (MTE), 1047  
 moulting, 1256  
 muscarinic receptor, 1037  
*Mycobacterium tuberculosis*, 1178

**N**

NADPH cytochrome *c* reductase, 1228  
 natural antisense, 1148  
 neurodegenerative disease, 1341  
 neuronal differentiation, 1287  
 neuronal necrosis, 1347  
 neuronal survival, 1277, 1287  
 neuroprotection, 1095, 1271, 1310, 1318,  
   1323, 1327, 1341, 1352  
 neuroprotective drug, 1271  
 neurotrophic factor, 1310  
 neurotrophin, 1287  
 neurovascular imaging, 1318  
 $\alpha$ 7 nicotinic acetylcholine receptor, 1037  
 non-coding RNA, 1148  
 nuclear factor  $\kappa$ B (NF- $\kappa$ B), 1291  
 nuclear orphan receptor, 1107  
 nuclear receptor, 1089, 1103, 1110, 1341  
 nuclear receptor signalling, 1117  
 nucleotide addition cycle, 1062  
*Nur77*, 1107

**O**

oestrogen, 1362  
 oestrogen receptor  $\beta$  (ER $\beta$ ), 1114  
 oligaemia, 1295  
 one-dimensional gel electrophoresis, 1246  
*OX40*, 1032  
 oxidative metabolic profiling, 1241  
 oxidative stress, 1366  
 oxidized metabolite, 1241  
 oxylipin, 1223

**P**

*p53*, 1283  
*pad3*, 1206  
 pandemic, 1151  
 partitioning, 1072  
 pausing, 1062  
 peripheral blood, 1313  
 peroxisome-proliferator-activated receptor  
   (PPAR), 1095, 1341  
 peroxisome-proliferator-activated receptor  
    $\alpha$  (PPAR $\alpha$ ), 1128  
 peroxisome-proliferator-activated receptor  
    $\gamma$  co-activator-1 $\alpha$  (PGC-1 $\alpha$ ), 1103  
*P450* classification, 1159  
*P450foxy*, 1165  
*P450ome*, 1165  
*Phanerochaete chrysosporium*, 1165  
 phenobarbital, 1252  
 phosphoproteome, 1303  
 phosphorylation, 1107, 1299

phytoalexin, 1206  
 phytohormone, 1209  
*pifithrin-* $\alpha$ , 1283  
 plant, 1202  
 plant pathogen, 1219  
 plant steroid hormone, 1199  
 plasmacytoid dendritic cell, 1024  
 plasmid maintenance, 1072  
 plasmid replication, 1072  
 plasmid transfer, 1072  
 polymorphism, 1186  
 post-translational control, 1107  
 post-translational modification, 997  
 preconditioning, 1307

pregnane X receptor (PXR), 1119  
 pre-initiation complex, 1051  
 prion protein (PrP), 1155  
 programmed cell death, 1334  
 prostate cancer, 1098  
 prostate cancer therapy, 1124  
 protease, 997  
 protein–protein interaction, 1054  
 protein kinase A (PKA), 1299  
 protein kinase CK2, 1303  
 protein phosphatase type 2C, 1370  
 protein tyrosine phosphatase, 1041  
 proteomics, 1246  
 prothoracic gland, 1256

**R**

randomized clinical trial, 1323  
 Ras-activated factor kinase (Raf kinase),  
   1287  
 receptor-interacting protein 140 (RIP140),  
   1103  
 recruitment, 1075  
 redox system, 1178  
 reperfusion, 1366  
 repressor element 1-silencing transcription  
   factor (REST), 1138  
 ribosomal RNA gene, 1079  
 rifampicin, 1119  
 RNA polymerase, 1058, 1062, 1067, 1075,  
   1133  
 RNA polymerase I, 1079  
 RNA polymerase II, 1047, 1051  
 RNA polymerase III, 1082  
 RNA processing, 1145  
 root-specific gene, 1192  
 rRNA, 1079

**S**

scaffold, 1310  
 scrapie, 1155  
 sepsis, 1028  
 serine- and arginine-rich protein  
   (SR protein), 1145  
 Set2 Rpb1-interacting domain  
   (SRI domain), 1058  
 severe acute respiratory syndrome (SARS),  
   1151  
 sialic acid, 1024  
 $\sigma^{54}$  factor, 1067  
 signal transducer and activator of  
   transcription 3 (STAT3), 1028  
 small ubiquitin-related modifier (SUMO),  
   1295  
 sodium channel, 1299

- soluble amyloid precursor protein (sAPP $\alpha$ ), 1277  
 spinal bulbar muscular atrophy, 1098  
 Src homology 2 domain-containing protein tyrosine phosphatase 1 (SHP-1), 1041  
 status epilepticus, 1347  
 steroid, 1215  
 steroid hormone receptor, 1054  
 sterol 14 $\alpha$ -demethylase, 1161  
 sterol  $\Delta^{22}$ -desaturase, 1159, 1202  
 stigmasterol, 1202  
*Streptomyces coelicolor*, 1183  
 stroke, 1267, 1271, 1291, 1307, 1323, 1362  
 substrate preference, 1161  
 subventricular zone, 1310  
 suppressor of cytokine signalling (SOCS), 1267
- T**  
 tandem MS, 1246  
 TATA box, 1047, 1051  
 TATA-box-binding protein (TBP), 1082  
 T-cell receptor (TCR), 1041  
 terpenoid, 1209  
 therapeutic strategy, 1313
- thermophilic haemoprotein, 1170  
 thiazolidinedione, 1341  
 thrombolysis, 1271, 1318, 1323  
 tissue plasminogen activator (tPA), 1318  
 tobacco cell suspension culture, 1241  
 tolerance, 1352  
 Toll-like receptor (TLR), 1352  
 trafficking, 1128  
 transactivation domain, 1054, 1098  
 transcript elongation, 1062  
 transcription, 1054, 1062, 1072, 1075, 1089, 1148  
 transcriptional regulation, 1128  
 transcription elongation, 1079  
 transcription factor IIB (TFIIB), 1047, 1051  
 transcription factory, 1133  
 transcription initiation factor, 1082  
 transforming growth factor- $\beta$  (TGF- $\beta$ ), 1119, 1141  
 transgenic plant tissue, 1241  
 transmissible spongiform encephalopathy (TSE), 1155  
 trial development, 1271  
 triazole, 1219  
 2,4,6-trinitrotoluene (TNT), 1228  
 trypanosome, 1161
- tumour necrosis factor (TNF), 1037, 1352  
 tumour necrosis factor (TNF)-like weak inducer of apoptosis (TWEAK), 1291  
 tyrosine kinase, 1299
- U**  
 UDP-glucuronosyltransferase, 1228  
 ultradian rhythm, 1117
- V**  
 vagus nerve, 1037  
 virus, 1151
- W**  
 whole-cell biocatalysis, 1215
- X**  
 xenobiotic, 1231  
 xenobiotic metabolism, 1159, 1241  
 X-ray crystallography, 1058
- Y**  
 yeast, 1058

- Abderrahmani, A. 696  
 Abe, K. 1310  
 Abi-Gerges, A. 484  
 Abraham, S.M. 1018  
 Abramsson, A. 454  
 Ädelroth, P. 188  
 Al-Gazzar, A. 1246  
 Alcaro, L. 1228  
 Alexander, S.P.H. 1095  
 Allen, J.W.A. 91, 150  
 Allen, S.J. 587  
 Alpy, F. 343  
 Amato, E. 1228  
 Amrani, N. 39  
 An, R. 791  
 Andersen, G.R. 1  
 Anderson, K.E. 647  
 Anilkumar, N. 960  
 Anthony, T.G. 7  
 Aoki, K. 851  
 Archer, I. 287  
 Ardley, H.C. 743  
 Armsen, W. 55  
 Armstrong, S.J. 542  
 Arnal, J.-F. 17  
 Arnaoutakis, K. 1141  
 Arthur, J.S.C. 1107  
 Ashcroft, F.M. 243, 806  
 Attrill, H. 1024  
 Augustine, G.J. 68  
 Auton, A. 526  
 Avril, T. 1024  
 Awai, K. 395  
 Babiychuk, E.B. 374  
 Bagshaw, C.R. 979  
 Bailey, M. 557  
 Baillie, G.S. 474, 504  
 Baird, A.E. 1313  
 Baird, D.M. 581  
 Balding, P.R. 1178  
 Bancos, S. 1199  
 Bankaitis, V.A. 346  
 Barber, J. 619  
 Bardwell, L. 837  
 Barran, P.E. 257  
 Barron, R.M. 1155  
 Barrow, S.L. 381  
 Basaglia, M. 130  
 Bastide, M. 1341  
 Baumann, N.A. 356  
 Baur, R. 868  
 Bayard, F. 17  
 Bayes, J.J. 569  
 Bazan, N.G. 1277  
 Bedmar, E.J. 108, 195  
 Beh, C.T. 356  
 Belandia, B. 1124  
 Belfield, E.J. 1223  
 Belfield, G.P. 313  
 Bender, K. 811  
 Bennett, A.J. 1095  
 Benning, C. 395  
 Berenguer, J. 97  
 Bernhardt, R. 1215  
 Berridge, M.J. 228  
 Betsholtz, C. 454  
 Betz, H. 45, 55  
 Bevan, C.L. 1124  
 Bevins, C.L. 263  
 Billiar, T.R. 957  
 Bingham, A.J. 1138  
 Bishop, G. 1199  
 Bishop, M.T. 1155  
 Blasco, R. 152  
 Bode, M. 1241  
 Boespflug-Tanguy, O. 22  
 Bohlmann, J. 1209  
 Bonecchi, R. 1014  
 Bonete, M.J. 115  
 Bonnard, N. 108  
 Boone, A.N. 223  
 Bordet, R. 1341  
 Borroni, E.M. 1014  
 Borutaite, V. 953  
 Bose, D. 1067  
 Bothe, H. 169  
 Bottolo, L. 526  
 Boulineau, N. 868  
 Boulton, S.J. 633  
 Bouyoucef-Cherchalli, D. 846  
 Brady, L. 587  
 Bramham, C.R. 600  
 Brandner, B. 435  
 Braun, A. 591, 594  
 Brennan, L. 811  
 Briscoe, C.A. 770  
 Britt-Compton, B. 581  
 Broadie, K. 81  
 Brockie, P.J. 64  
 Brooke, G.N. 1124  
 Brown, A.J. 770  
 Brown, G.C. 953  
 Brownsey, R.W. 223  
 Brunori, M. 185  
 Buchan, A.M. 1318  
 Buck, M. 1067  
 Bukoreshtliev, N.V. 671  
 Buracchi, C. 1014  
 Burlat, B. 143  
 Burrows, J.F. 764  
 Burrows, P. 1067  
 Busby, S.J.W. 1075  
 Bushell, M. 12  
 Busquet, P. 903  
 Butler, C.S. 118, 122  
 Butt, J.N. 115, 133, 143  
 Börner, G.V. 554  
 Büsch, A. 182  
 Cabello, P. 127  
 Cabezas, A. 174  
 Cabon, F. 17  
 Callewaert, L. 1089  
 Campopiano, D.J. 251  
 Cancellotti, E. 1155  
 Cannon, W. 1067  
 Carland, J.E. 882  
 Carr, R. 287  
 Carswell, H.V. 1362  
 Casella, S. 130  
 Casey, R. 1223  
 Castillo, F. 127, 152  
 Castle, J. 1199  
 Cattaneo, A. 605  
 Catterall, W.A. 1299  
 Cava, F. 97  
 Cavey, J.R. 735  
 Cesaro, L. 1303  
 Chamorro, Á. 1267  
 Chan, C.B. 802  
 Chan, P.H. 1283, 1366  
 Chantry, A. 761  
 Chao, M.V. 607  
 Chee, F. 88  
 Cherny, D. 979  
 Chin, J.W. 328  
 Chinetti, G. 1128  
 Choi, J.-Y. 404  
 Chotai, D. 1124  
 Christian, M. 1103  
 Chun, Y.-J. 1183  
 Cid, L.P. 899  
 Claessens, F. 1089  
 Clague, M.J. 754  
 Clark, A.R. 1018  
 Clarke, D.J. 251  
 Clarke, D.T. 427  
 Clarke, T.A. 143  
 Cole, J.A. 104, 111, 122, 143  
 Collins, H.F. 1173  
 Connolly, C.N. 863  
 Constantindou, C. 104  
 Cook, P.R. 1133  
 Cools, H.J. 1219  
 Cooper, D.M.F. 468, 480  
 Cooper, M.A. 882  
 Corsi, I. 1228  
 Cortés-Lorenzo, C. 165  
 Coussen, F. 927  
 Covaceuszach, S. 605  
 Covington, D.K. 770  
 Cox, R.D. 806  
 Cramer, P. 1058  
 Cramm, R. 182  
 Crandall, T. 1366  
 Crocker, P.R. 1024  
 Cullen, P.J. 846  
 Culmsee, C. 1334  
 Cummins, C.L. 1110  
 Cutruzzolà, F. 185  
 Cuttle, M. 88  
 Cuzzocrea, S. 965  
 Damilano, F. 502  
 Dart, D.A. 1124  
 da Silva Xavier, G. 791  
 Dasso, M. 711  
 D'Autréaux, B. 191  
 Davidson, K. 647  
 Davies, A. 894  
 Davies, P. 1098  
 Davies, S.-A. 512  
 Davison, E.J. 743  
 Dawbarn, D. 587  
 Dawson, T.M. 1307  
 Dawson, V.L. 1307  
 Day, A.J. 446  
 Day, J.P. 512  
 de Andrade, P.B.M. 824  
 Dedos, S.G. 515  
 Deeb, T.Z. 882  
 Deedum, M. 139  
 Deguchi, K. 1310

- Delaney, S.J. 313  
 Delgado, M.J. 108, 195  
 Della Torre, C. 1228  
 Dellis, O. 910  
 del Zoppo, G.J. 1261  
 Deng, W. 1051  
 Deplanque, D. 1341  
 de Vos, R.A.I. 738  
 de Vries, S. 136  
 Di Benedetto, G. 495  
 Dillon, J. 942  
 Ding, J.L. 270  
 Dixon, R. 162, 191  
 Doddapaneni, H. 1165  
 Dolman, N.J. 381  
 Dolphin, A.C. 894  
 Dolton, G.M. 1041  
 Dong, G. 683  
 Dong, S. 39  
 Donnelly, P. 526  
 Dorin, J.R. 257  
 Douglas, L. 894  
 Doyle, T.M. 965  
 Draeger, A. 374  
 Dridge, E.J. 118  
 Dryden, D.T.F. 317  
 Duchesne, L. 427  
 Duff, J. 1098  
 Duncan, R.R. 679  
 Dunford, A.J. 1178  
 Duriez, P. 1341  
 Dworakowski, R. 960  
 Dyachok, O. 498  
 Dyet, K. 197
- Eastwood, H. 257  
 Ehling, J. 1192  
 Ehnholm, C. 389  
 Eichler, T.W. 671  
 Eilmus, S. 169  
 Elliott, J.E. 223  
 Endo, H. 1283  
 Eulenburg, V. 55  
 Eve, T. 304
- Faber, K. 296  
 Fahey, M. 587  
 Fang, X. 798  
 Faro-Trindade, I. 1133  
 Feingold, E. 578  
 Ferguson, S.J. 91, 150  
 Fernie-King, B.A. 273  
 Fernig, D.G. 427  
 Ferris, V. 557  
 Feyereisen, R. 1252  
 Fischer, H.-M. 156  
 Fischmeister, R. 484  
 Fisher, M. 1271  
 Fitch, P.M. 279  
 Flatt, P.R. 774  
 Flock, U. 188  
 Focardi, S. 1228  
 Fogli, A. 22  
 Foka, P. 1141  
 Forster, M. 431  
 Fotheringham, I. 287  
 Fraaije, B.A. 1219  
 Francis, R.E. 722
- Franklin, F.C.H. 542  
 Frebel, K. 1287  
 Freeman, C. 526  
 Freeman, H. 806  
 Fruchart, J.C. 1128, 1341  
 Fujita, J. 746  
 Fukuda, M. 691
- Gadler, P. 296  
 Gagnon-Kugler, T. 1079  
 Galione, A. 922  
 Gallagher, J.T. 438  
 Galliera, E. 1014  
 Gamble, S.C. 1124  
 Ganesan, R. 39  
 Gartland, K.M.A. 1151  
 Gautier, S. 1341  
 Geetha, T. 757  
 Geiduschek, E.P. 1082  
 Gelé, P. 1341  
 George, C.H. 913  
 Gerasimenko, O.V. 381  
 Gerdes, H.-H. 671  
 Geretti, E. 435  
 Gerhardt, H. 454  
 Gerstein, A.C. 519  
 Gherardi, E. 414  
 Ghigo, A. 502  
 Ghosh, S. 39  
 Giardina, G. 185  
 Gibson, W. 557  
 Gilbert, L.I. 1256  
 Ginsberg, M.D. 1323  
 Girvan, H.M. 1173, 1178  
 Glawischnig, E. 1206  
 Gledhill, J.R. 989  
 Glueck, S.M. 296  
 Goetz, J.G. 370  
 Goldfarb, D.S. 340  
 Gomez, J. 55  
 Gómez-Villalba, B. 165  
 González, W. 899  
 Gonzalez-Herrera, I.G. 17  
 González-López, J. 165  
 González-Nilo, F.D. 899  
 Good, L. 1148  
 Goodman, B. 716  
 Gorina, R. 1267  
 Graham, G.J. 1002  
 Graham, S.V. 1145  
 Grant, S.G.N. 59  
 Gray, B.C. 51  
 Green, B.D. 774  
 Greenwood, S. 863  
 Griac, P. 377  
 Griffiths, L. 104  
 Griffiths, W.J. 1246  
 Grocott, T. 761  
 Grosshans, B. 683  
 Guengerich, F.P. 1183  
 Gustafsson, J.-Å. 1114  
 Guven, D. 174  
 Gwyer, E. 1032  
 Gwyer, J.D. 133
- Hales, T.G. 882  
 Halestrap, A.P. 232  
 Hall, J. 267  
 Hallenbeck, J.M. 1295  
 Hallermann, S. 939  
 Halling, P.J. 309  
 Hamberger, B. 1209  
 Hamilton, T.L. 12  
 Hanley, J.G. 931  
 Hannemann, F. 1215  
 Hansell, C.A.H. 1009  
 Hao, H.-X. 791  
 Hardingham, G.E. 936  
 Hargrove, T.Y. 1161  
 Harhangi, H.R. 174  
 Harmer, N.J. 442  
 Haros, K. 761  
 Harrison, K. 1199  
 Hart, P. 1155  
 Hartshorne, S. 146  
 Hasnaoui, G. 291  
 Hauer, B. 291  
 Hawkins, P.T. 647  
 Hayashi, H. 399  
 He, F. 39  
 Heckmann, M. 939  
 Hemmings, A.M. 143  
 Hennecke, H. 156  
 Herrmann, O. 1291  
 Hers, I. 209  
 Hetzenauer, A. 903  
 Hiemstra, P.S. 276  
 Higgins, J.D. 542  
 Higman, V.A. 446  
 Hill, M.D. 1323  
 Hirsch, E. 502  
 Ho, B. 270  
 Hobman, J.L. 104  
 Hohenester, E. 418  
 Holden-Dye, L.M. 43, 942  
 Holic, R. 377  
 Hontoria, E. 165  
 Hopper, N.A. 942  
 Houslay, M.D. 474, 504  
 Houslay, T.M. 504  
 Howie, S.E.M. 279  
 Howitt, J.A. 418  
 Hsieh, L. 1366  
 Hsu, J.-Y. 1047  
 Hsu, S.C. 687  
 Huertas, M.-J. 152  
 Hughes, R.K. 1223  
 Hundsrucker, C. 472  
 Hung, C.-C. 743  
 Hung, S. 1261  
 Hunt, P.A. 574  
 Hussain, S. 418  
 Hussell, T. 1032  
 Huston, E. 504  
 Hutagalung, A. 683  
 Hyynnen, R. 389  
 Hölttä-Vuori, M. 392
- Iino, R. 993  
 Ikonen, E. 392  
 Inta, I. 1291  
 Irvine, S.A. 1141  
 Isakov, Y. 498

- Jackson, N. 542  
 Jacobson, A. 39  
 Janssen, D.B. 291  
 Janssen, G.M.C. 819  
 Jauhainen, M. 389  
 Jayawickreme, C.K. 770  
 Jeganathan, K.B. 583  
 Jepson, B.J.N. 122, 195  
 Jetten, M.S.M. 174, 179  
 Jeyabalan, G. 957  
 Jiang, H.-Y. 7  
 Jin, S. 68  
 Johansson, M. 389  
 Johnston, J.A. 764  
 Joly, N. 1067  
 Jones, G.H. 542  
 Jordan, P. 545  
 Joussen, N. 1241  
 Jungmann, V. 1236  
 Juven-Gershon, T. 1047  
 Jørgensen, R. 1
- Kaderbhai, M.A. 1231  
 Kaderbhai, N.N. 1231  
 Kadonaga, J.T. 1047  
 Kamiya, T. 1310  
 Kamiya, Y. 1199  
 Kamphorst, W. 738  
 Kampschreuer, M.J. 179  
 Karlsson, M. 842  
 Kartal, B. 174  
 Karten, B. 399  
 Kashemsant, N. 802  
 Kassavetis, G.A. 1082  
 Kazanietz, M.G. 855  
 Keeney, S. 523  
 Kelly, D.E. 1159  
 Kelly, S.L. 1159, 1231  
 Kemp, L.E. 414  
 Kendall, D.A. 1095  
 Kervestin, S. 39  
 Keyse, S.M. 842  
 Kiledjian, M. 35  
 Kim, S.H. 1219  
 Kittel, R.J. 939  
 Kjellen, L. 454  
 Klumpp, S. 1370  
 Klussmann, E. 472  
 Konarev, P.V. 605  
 Kondo, K. 17  
 Korotchkina, L.G. 217  
 Koschak, A. 903  
 Koziol, J.A. 1261  
 Kriegstein, J. 1370  
 Kros, J.M. 738  
 Kroutil, W. 296  
 Krzywkowski, K. 872  
 Kuenen, J.G. 174  
 Kulpa, J.E. 223  
 Kungl, A.J. 435  
 Kupzig, S. 846  
 Kurup, S. 454  
 Kushiro, T. 1199  
 Kutschker, J. 591  
 Kuypers, M.M.M. 174  
 Kvam, E. 340  
 Kögel, T. 671
- Lachmann, P.J. 273  
 Lafer, E.M. 68  
 Lai, F.A. 913, 919  
 Lam, E.W.-F. 722  
 Lamb, D.C. 1159  
 Lamb, N.E. 578  
 Lamba, D. 605  
 Lambert, J.J. 882  
 Landick, R. 1062  
 Lane, C. 1246  
 Langlois, F. 1079  
 Laprais, M. 1341  
 Larin Monaco, Z. 324  
 Larissegger-Schnell, B. 296  
 Lavalette, D. 975  
 Lavery, D.N. 1054  
 Layfield, R. 735  
 Lee, W.M. 223  
 Lee, Y.-J. 1295  
 Lehto, M. 389  
 Lemkes, H.H. 819  
 Lepesheva, G.I. 1161  
 Lesa, G.M. 77  
 Lev, S. 363  
 Leverenz, M.K. 794  
 Lewis, R.J. 118  
 Leys, D. 1173, 1178  
 Li, C. 39  
 Li, J.P. 454  
 Li, P. 270  
 Lightman, S.L. 1117  
 Lindahl, U. 454  
 Lindsay, J.G. 815  
 Lissandron, V. 495  
 Lisurek, M. 1215  
 Little, R. 162  
 Liu, H. 35  
 Livesey, M.R. 882  
 Locati, M. 1014  
 Loder, M.K. 675  
 Loenen, W.A.M. 330  
 Long, J. 735  
 Lorenz, A. 537  
 Lortat-Jacob, H. 461  
 Lovestone, S. 88  
 Lovis, P. 696  
 Lu, B. 395  
 Lu, C.-Z. 1327  
 Lucas, J.A. 1219  
 Ludikhuize, J. 727  
 Lukiw, W.J. 1277  
 Luque-Almagro, V.M. 152  
 Lutje Spelberg, J.H. 291  
 Lygren, B. 489  
 Lévy, R. 427
- Maassen, J.A. 819  
 Mabuchi, T. 1261  
 Macrae, I.M. 1362  
 Maechler, P. 811, 824  
 Maier, C.M. 1366  
 Maillard, M. 761  
 Majerić-Elenkov, M. 291  
 Malik, H.S. 569  
 Malik, P. 705  
 Mancuso, L. 495  
 Mandl, M. 842  
 Mangelsdorf, D.J. 1110
- Mangus, D.A. 39  
 Manson, J.C. 1155  
 Mantovani, A. 1014  
 Maricq, A.V. 64  
 Marietou, A. 122  
 Marshall, K.R. 1178  
 Martin, A.C.L. 480  
 Martinez-Argudo, I. 162  
 Martinez de la Torre, Y. 1014  
 Martínez-Espínosa, R.M. 115  
 Martínez-Luque, M. 127, 152  
 Martin-Gronert, M.S. 779  
 Marza, E. 77  
 Mashanov, G.I. 983  
 Matsuda, M. 851  
 Matthews, R.J. 1041  
 Maxfield, F.R. 335  
 Mayer, R.J. 746  
 McCormack, J.G. 238  
 McCormick, S. 283  
 McCullough, J. 754  
 McDougall, A. 385  
 McEwan, I.J. 1054, 1098  
 McKimmie, C.S. 1002  
 McLean, K.J. 1173, 1178  
 McPhillips, M.G. 1145  
 McVean, G. 526  
 Meakin, G.E. 195  
 Medkova, M. 683  
 Meggio, F. 1303  
 Mellor, J.R. 949  
 Menon, A.K. 356  
 Merrill, A.R. 1  
 Mesa, S. 156  
 Messaoudi, E. 600  
 Millson, S.H. 783  
 Milner, C.M. 446  
 Milner, R. 1261  
 Milona, P. 267  
 Minier, F. 868  
 Minor, Jr, D.L. 887  
 Miroslavova, N.S. 1075  
 Mitchell, J.E. 1075  
 Mizielska, S. 863  
 Mizutani, M. 1202  
 Moehren, U. 1089  
 Mohan, S. 122  
 Moir, J. 139, 197  
 Mole, S. 1145  
 Molina-Muñoz, M.L. 165  
 Molloy, J.E. 983  
 Molnár, I. 1236  
 Mondal, M. 335  
 Mongillo, M. 510  
 Montchamp-Moreau, C. 562  
 Montoya, T. 1199  
 Moore, D.J. 749  
 Moralli, D. 324  
 Moreno-Vivián, C. 127, 152  
 Morgan, J.R. 68  
 Morikawa, T. 1202  
 Moss, T. 1079  
 Mouawad, L. 975  
 Mousley, C.J. 346  
 Mudher, A. 88  
 Mulle, C. 927  
 Mulloy, B. 409, 414, 431  
 Munro, A.W. 1173, 1178

- Murray, N.E. 203  
 Murray, P.J. 1028  
 Myers, S. 526  
 Mézard, C. 531
- Nabi, I.R. 370  
 Najat, D. 735  
 Nakamura, T. 851  
 Narasimhan, P. 1366  
 Nassenstein, C. 591, 594  
 Neale, M.J. 523  
 Neeli, R. 1173, 1178  
 Nenasheva, T.A. 983  
 Nes, W.D. 1161  
 Nestl, B.M. 296  
 Newbury, S.F. 30  
 Newman, T.A. 88  
 Newsholme, P. 811  
 Nguyen, N.K. 903  
 Nibbs, R.J.B. 1009  
 Nichols, R.J. 427  
 Niemeyer, M.I. 899  
 Niquet, J. 1347  
 Noji, H. 993  
 Nomura, T. 1199  
 Norén, A. 160  
 Novick, P. 683  
 Nuttall, J. 783
- O'Connor, V.M. 43, 51, 942  
 Ohta, D. 1202  
 Ohvo-Rekilä, H. 356  
 Okano, H. 1310  
 Olkkonen, V.M. 389  
 Olmo-Mira, F. 127  
 Ooi, L. 1138  
 Op den Camp, H.J.M. 174  
 Ortiz de Montellano, P.R. 1170  
 Osman, K.E. 542  
 Ott, R.D. 1161  
 Otto, S.P. 519  
 Ouk, T. 1341  
 Overton, T.W. 104  
 Ozanne, S.E. 779
- Paarmann, I. 45  
 Pachlatko, J.P. 1236  
 Pagano, M.A. 1303  
 Paik, J.-H. 731  
 Palesch, Y.Y. 1323  
 Pandey, A.V. 1186  
 Paoletti, F. 605  
 Papadakis, M. 1318  
 Pape, T. 1067  
 Parker, M.G. 1103  
 Parry, H. 385  
 Parton, L. 247  
 Patel, M.D. 104  
 Patel, M.S. 217  
 Pavlov, V.A. 1037  
 Peacock, L. 557  
 Peckham, M. 983  
 Peleshok, J. 612  
 Pelster, G. 903  
 Penn, C.W. 104  
 Perino, A. 502  
 Perry, V.H. 51  
 Peters, J.A. 882
- Petkovic, M. 722  
 Petrault, O. 1341  
 Philippot, L. 101  
 Piccinini, A.-M. 435  
 Picioreanu, C. 174, 179  
 Pinna, L.A. 1303  
 Pino, C. 127  
 Piper, P.W. 783  
 Plaisance, V. 696  
 Planas, A.M. 1267  
 Plesnila, N. 1334  
 Potzinger, H. 435  
 Powell, S.M. 1124  
 Pozo, K. 48  
 Prado-Lourenco, L. 17  
 Prasad, K. 68  
 Prats, A.-C. 17  
 Prinz, W.A. 359  
 Prior, I.A. 754  
 Proost, P. 997  
 Proud, C.G. 213  
 Proudfoot, A.E.I. 422  
 Provart, N.J. 1192  
 Pruenster, M. 1005
- Rackham, O. 328  
 Raff, M. 663  
 Ralston, S.H. 735  
 Ramji, D.P. 1141  
 Ramos, A. 165  
 Raper, A. 1024  
 Rappas, M. 1067  
 Ravier, M.A. 247, 675  
 Raychaudhuri, S. 359  
 Reebye, V. 1124  
 Reece, R.J. 794  
 Reedquist, K.A. 727  
 Rees, C. 427  
 Regazzi, R. 696  
 Reijnders, W.N.M. 94  
 Reiling, E. 819  
 Reimann, J. 188  
 Reinisch, K. 683  
 Rek, A. 435  
 Rewitz, K.F. 1256  
 Reznikoff, W.S. 320  
 Richardson, D.J. 115, 118, 122, 133, 143,  
     146, 195  
 Rider, C.C. 409, 458  
 Riekhof, W.R. 404  
 Riezman, H. 367  
 Rinaldo, S. 185  
 Roberts, G.C.K. 971  
 Roberts, S.G.E. 1051  
 Robinson, P.A. 743  
 Robles, E.F. 108  
 Rochais, F. 484  
 Rochlitzer, S. 594  
 Rock, J. 139  
 Rodelas, B. 165  
 Roghanian, A. 279  
 Roldán, M.-D. 127, 152  
 Rolfes, R.J. 786  
 Romijn, J.A. 819  
 Rösch, C. 169  
 Rosenthal, W. 472  
 Rot, A. 1005  
 Row, P. 754
- Rudd, T.R. 427  
 Rutter, G.A. 247, 351, 675, 791  
 Rutter, J. 791  
 Ryan, M.M. 346  
 Rybczynski, R. 1256
- Sabri, M. 1178  
 Sacks, D.B. 833  
 Saito, A. 1283  
 Saiyed, T. 45  
 Saklatvala, J. 456  
 Sallenave, J.-M. 279  
 Salvemini, D. 965  
 Sanchez-Moran, E. 542  
 Santosuosso, M. 283  
 Saragovi, H.U. 612  
 Sathish, J.G. 1041  
 Sawamoto, K. 1310  
 Sayner, S. 492  
 Schäbitz, W.-R. 1271  
 Scherthan, H. 550  
 Scheuer, T. 1299  
 Schirmer, E.C. 705  
 Schmid, M.C. 174  
 Schmidt, B. 1241  
 Schmidt, I. 179  
 Schmitt, B. 45  
 Scholze, P. 55  
 Schuklenk, U. 1151  
 Schumacher, J. 1067  
 Schuphan, I. 1241  
 Schwaninger, M. 1291  
 Schwarz, E. 605  
 Scott, J.D. 73, 465  
 Scrutton, N.S. 1173  
 Searle, M.S. 735  
 Seibert, C. 1246  
 Seilly, D.J. 273  
 Semple, C.A.M. 257  
 Semplici, F. 791  
 Seo, D.-W. 1347  
 Sepúlveda, F.V. 899  
 Sessions, R. 587  
 Seward, H.E. 1178  
 Shah, A.M. 960  
 Shapleigh, J.P. 130  
 Sharif, A. 1246  
 Shepherd, D. 88  
 Sheppard, P.W. 735  
 Sherman, S.L. 578  
 Sherwood, M.W. 381  
 Shimada, T. 1183  
 Shimomura, K. 806  
 Shoemark, D. 587  
 Sigel, E. 868  
 Sigrist, S.J. 939  
 Simgen, B. 1215  
 Simon, J. 146  
 Simon, R. 1356  
 Simpson, C.V. 1009  
 Singewald, N. 903  
 Singh, N.N. 1141  
 Sinnegger-Brauns, M.J. 903  
 Skidmore, M.A. 427  
 Skipp, P. 51  
 Smolle, M. 815  
 Snelgrove, R. 1032  
 Soderling, S.H. 73

- Soulé, J. 600  
 Spatrick, P. 39  
 Speight, R. 287  
 Spencer, C.C.A. 526, 535  
 Spillmann, D. 454  
 Spiro, S. 191, 200  
 Spriggs, K.A. 12  
 Staels, B. 1128, 1341  
 Stefanovsky, V. 1079  
 Stege, J. 1236  
 Stenzel-Poore, M.P. 1352  
 Stephens, L.R. 647  
 Stephenson, F.A. 43, 48, 877  
 Stevens, S.L. 1352  
 Stevens, T. 492  
 Stewart, M. 701  
 Stokka, A.J. 476  
 Stone, J.C. 858  
 Stoneley, M. 12  
 Striessnig, J. 903  
 Stringer, S.E. 451  
 Strous, M. 174  
 Strube, K. 182  
 Struyf, S. 997  
 Subramanian, V. 1165  
 Suchanek, M. 389  
 Sullivan, D.P. 356  
 Sun, M. 270  
 Sun, Y. 1095  
 Svergun, D.I. 605  
 Sweeney, G. 798  
 Szatmári, A.-M. 1199  
 Szekeres, M. 1199  
 Sánchez, C. 108  
 Sågetorp, J. 498
- Tahotna, D. 377  
 Tak, P.P. 727  
 Tan, N.C.G. 179  
 Tanner, T. 1089  
 Taskén, K. 476, 489  
 Tavaré, J.M. 209  
 Taylor, C.W. 515, 910  
 Taylor, K. 257  
 Tebbutt, J. 1075  
 ten Dijke, P. 761  
 Tengholm, A. 498  
 Tepikin, A.V. 381  
 Teria, M. 304  
 Terrin, A. 495  
 Terry, C.J. 427  
 Teshima-Kondo, S. 17  
 Tétreau, C. 975  
 Thanh, N.T.K. 427  
 't Hart, L.M. 819  
 Thiele, C. 389  
 Thissen, M.-C. 1370  
 Thomas, C.M. 1072  
 Thomas, N.L. 913  
 Thomsen, S. 939
- Timmons, J.A. 1148  
 Tock, M.R. 317  
 Toffanin, A. 130  
 Tomasetto, C. 343  
 Tovey, S.C. 515  
 Townes, C.L. 267  
 Tracey, K.J. 1037  
 Trefzer, A. 1236  
 Truman, A.W. 783  
 Tsuboi, T. 247  
 Tsung, A. 957  
 Tucker, N.P. 191  
 Tumes, D. 591  
 Turner, N.J. 287  
 Tyeryar, K.R. 346  
 Tyler, S. 587
- Úbeda, F. 566  
 Ueberbacher, B.T. 296  
 Urbé, S. 754
- Vance, J.E. 399  
 Van Damme, J. 997  
 Vandecasteele, G. 484  
 van de Pas-Schoonen, K.T. 174  
 van der Star, W.R.L. 174  
 van Deursen, J.M. 583  
 van de Vosserberg, J. 174  
 van Leeuwen, F.W. 738  
 van Loosdrecht, M.C.M. 174, 179  
 van Niftrik, L.A.M.P. 174  
 Van Petegem, F. 887  
 van Schravendijk, C. 738  
 van Spanning, R.J.M. 94  
 Varadi, A. 247  
 Vecchi, A. 1014  
 Veerapraditsin, T. 1145  
 Veldman, R. 94  
 Verras, A. 1170  
 Verrijdt, G. 1089  
 Vijayakrishnan, N. 81  
 Vilchez, R. 165  
 Villalba-Galea, C.A. 68  
 Vincent, T. 456  
 Vírus, C. 1215  
 Voelker, D.R. 404  
 Voronina, S.G. 381
- Wabitsch, V. 435  
 Wada-Hiraike, O. 1114  
 Wakeley, J. 560  
 Walker, J.E. 989  
 Wallner, S.R. 296  
 Waltham, T.N. 1173  
 Wang, He 160  
 Wang, HongBin 855  
 Wang, S. 687  
 Wang, X. 1261  
 Wang, Y. 1246  
 Warner, M. 1114  
 Warren, J.T. 1256
- Wasterlain, C.G. 1347  
 Waterman, M.R. 1161, 1183  
 Watson, J. 587  
 Watson, R.A. 560  
 Watt, K. 1098  
 Weinreich, D.M. 560  
 Wek, R.C. 7  
 Welchman, R. 754  
 Wells, A. 304  
 Welsh, G.I. 209  
 Werck-Reichhart, D. 1192  
 Wherlock, M. 209  
 Whitaker, H.C. 1124  
 Whitaker, M. 385  
 Whitby, M.C. 537  
 White, R. 1103  
 Whitehead, R.N. 111  
 Whitmarsh, A.J. 828  
 Wichmann, C. 939  
 Wicks, S.J. 761  
 Wiertz, F.G.M. 136  
 Wiese, S. 1287  
 Wigneshweraraj, S. 1067  
 Williams, K. 557  
 Willis, C. 587  
 Willoughby, D. 468  
 Wingate, A.D. 1107  
 Wood, I.C. 1138  
 Woodley, J.M. 301  
 Wooten, M.W. 757  
 Wratten, J. 894  
 Wright, M.C. 1119  
 Wu, W.-I. 404
- Xiao, B.-G. 1327  
 Xing, Z. 283  
 Xiong, Z. 1356  
 Xu, C. 395
- Yadav, J.S. 1165  
 Yamaguchi, S. 1199  
 Yamashita, T. 1310  
 Yan, D. 389  
 Yarwood, S. 846  
 Yates, E.A. 427  
 Ying, Z. 174  
 Yokota, T. 1199  
 Yoshizaki, H. 851
- Zaccolo, M. 495, 510  
 Zamparo, I. 495  
 Zampieri, N. 607  
 Zhang, J. 1024  
 Zhang, M. 960  
 Zhang, R. 587  
 Zhang, X. 1067  
 Zhang, X.Z. 283  
 Zheng, Y. 716  
 Zissimopoulos, S. 919  
 Zúñiga, L. 899



- AAA<sup>+</sup> activator (see ATPase associated with various cellular activities activator)  
 ABC transporter (see ATP-binding-cassette transporter)  
*Aβ* (see amyloid β-peptide)  
 AC (see adenylate cyclase)  
 ACC (see acetyl-CoA carboxylase)  
 acetylcholine, 381  
 acetyl-CoA carboxylase (ACC), 223  
 ACh receptor (see nicotinic acetylcholine receptor)  
 acidotoxicity, 1356  
 acid-sensing ion channel (ASIC), 1356  
 actin, 550  
 actin remodelling, 73  
 action potential, 1299  
 activation of transcription, 1075  
 active-site channel, 143  
 active-site coupling, 815  
 active zone, 939  
 adaptor protein, 48, 68  
 adenine, 786  
 S-adenosylmethionine, 330  
 adenylate cyclase (AC), 468, 480, 492, 510  
 adipocyte, 819, 1103  
 adipokine, 798  
 adiponectin, 798  
 ADP-ribosylation, 1  
 adrenal gland, 1110  
 adrenergic receptor, 484  
 $\beta_2$ -adrenergic receptor ( $\beta_2$ Ar), 474  
 $\beta$ -adrenoceptor, 510  
 age-related infertility, 583  
 aggresome, 743  
 aging, 581, 743  
 AIF (see apoptosis inducing factor)  
 airway hyperreactivity, 591  
 airway hyperresponsiveness, 594  
 airway inflammation, 591, 594  
 AKAP (see A-kinase-anchoring protein)  
 A-kinase-anchoring protein (AKAP), 73, 465, 472, 480, 489  
 Akt (see protein kinase B)  
 albumin, 1323  
 aldehyde, 304  
 alkalophile, 152  
 all-and-none segregation, 566  
 allele, 560  
 allene oxide synthase (AOS), 1192, 1223  
 allergic asthma, 591  
 allosteric protein, 931  
 alpheid DNA, 324  
 Alzheimer's disease, 88, 587, 1277  
 AMFR (see autocrine motility factor receptor)  
 $\alpha$ -amino-3-hydroxy-5-methylisoxazole-4-propionic acid receptor (AMPAR), 931  
 ammonia oxidation, 179  
 AMP-activated protein kinase (AMPK), 223  
 AMPAR (see  $\alpha$ -amino-3-hydroxy-5-methylisoxazole-4-propionic acid receptor)  
 AMPK (see AMP-activated protein kinase)  
 AMSH (see associated molecule with the Src 3 homology domain of signal transducing adaptor molecule)  
 amyloid β-peptide (A $\beta$ ), 1277  
 amyloid precursor protein (APP), 607, 828  
 anaerobic ammonium oxidation (anammox), 174  
 anaerobic growth, 97  
 anammox (see anaerobic ammonium oxidation)  
 anaphase-promoting complex, 583  
 androgen receptor, 1089, 1124  
 aneuploidy, 583  
 angiogenesis, 451, 731, 1327  
 angiotensin, 960  
*Anguilla anguilla* (Linnaeus, 1758) (see European eel)  
 annexin, 374  
 anti-androgen, 1124  
 anti-apoptosis, 1327  
 antibacterial protein, 267  
 antibody, 612  
 antigen-presenting cell, 1032  
 anti-inflammatory cytokine, 1267  
 anti-inflammatory drug, 435  
 antimicrobial peptide, 251, 257, 273, 276  
 anti-protease, 267  
 AOS (see allene oxide synthase)  
 apolipoprotein E, 399, 1141  
 apoptosis, 7, 232, 936, 1114, 1283, 1287, 1303, 1370  
 apoptosis inducing factor (AIF), 1334, 1347  
 APP (see amyloid precursor protein)  
 AQP2 (see aquaporin-2)  
 aquaporin-2 (AQP2), 472  
 $\beta_2$ Ar (see  $\beta_2$ -adrenergic receptor)  
*Arabidopsis*, 531, 542, 1192, 1199, 1206  
 Aralar1, 811  
*Archaeoglobus fulgidus*, 118  
 archaeon, 115  
 aromatization, 304  
 $\beta$ -arrestin, 474  
 arrhythmia, 913  
 arrhythmogenic right ventricular cardiomyopathy/dysplasia type 2 (ARVC/D2), 913  
 articular cartilage, 456  
 artificial chromosome, 324  
 ARVC/D2 (see arrhythmogenic right ventricular cardiomyopathy/dysplasia type 2)  
 AS160, 209  
 ASIC (see acid-sensing ion channel)  
 assimilation, 127  
 assimilatory nitrate reductase (NAS), 122  
 associated molecule with the Src homology 3 domain of signal transducing adapter molecule (AMSH), 754  
 asthma, 594  
 atherosclerosis, 1141  
 ATPase associated with various cellular activities activator (AAA<sup>+</sup> activator), 1067  
 ATPase synthase, 989  
 ATP-binding-cassette transporter (ABC transporter), 359, 395  
 ATP hydrolysis, 1067  
 ATP-sensitive potassium channel ( $K_{ATP}$  channel), 243  
 atrial natriuretic peptide, 1138  
 atypical chemokine receptor, 1009  
 Aurora A, 716  
 aurovertin, 989  
 autocrine motility factor receptor (AMFR), 370  
 autoimmune disease, 1041  
 autoimmunity, 1032  
 autophagy, 340  
 avermectin, 1236  
 avian WAP (whey acidic protein) domain- and Kunitz domain-containing protein (AWAK protein), 267  
 AWAK protein [see avian WAP (whey acidic protein) domain- and Kunitz domain-containing protein]  
 AWAP IV, 267  
 axon guidance, 418  
 azide, 291  
 azole binding, 1170, 1178  
*Azotobacter vinelandii*, 162
- B**  
*Bacillus*, 1173  
 bacterial chromosome, 203  
 bacterial cultivation, 101  
 bacterial cytochrome P450, 1215  
 bacterial enhancer binding protein, 1067  
 bacterial lipid, 270  
 bacterium, 492, 1072  
 baflomycin, 922  
 Bag1 (see Bcl-2-associated athanogene 1)  
*BAS1*, 786  
 basal transcription factor, 1054  
 basic fibroblast growth factor (bFGF), 456  
 Bcl-2-associated athanogene 1 (Bag1), 1287  
 BDNF (see brain-derived neurotrophic factor)  
 Bdp1, 1082  
 benzodiazepine, 863, 868  
 $\beta$ -cell, 247, 675, 774, 791, 806, 811, 824  
 bFGF (see basic fibroblast growth factor)  
 bicalutamide, 1124  
 Bid, 1334  
 binding partner, 842  
 biocatalysis, 287, 291, 296, 1236  
 biocatalytic process, 301  
 biodegradation, 152  
 biodiversity, 165, 169, 1148, 1161  
 biofilm, 165  
 biofilter, 165  
 biogenesis, 863  
 bioimaging, 983  
 bioinformatics, 313  
 biomarker, 1159  
 biophysical characterization, 442  
 biotin, 223  
 biotransformation, 287, 1231  
 bird flu, 1151  
 birth weight, 779  
 bisphenol A, 574  
 blood-brain barrier, 1261, 1366  
 blood genomic profiling, 1313  
 BM3, 1173  
 BMP (see bone morphogenetic protein)  
 BMP antagonist (see bone morphogenetic protein antagonist)  
 bone morphogenetic protein (BMP), 458  
 bone morphogenetic protein antagonist (BMP antagonist), 458

- bouquet, 550  
 bovine spongiform encephalopathy (BSE), 1155  
*Bradyrhizobium japonicum*, 108, 156, 195  
 brain, 232, 828, 1307  
 brain-derived neurotrophic factor (BDNF), 594, 600  
 brain function, 903  
 brain injury, 1366  
 brain ischaemia, 1356  
 brain natriuretic peptide, 1138  
 branched respiratory chain, 139  
 brassicasterol, 1202  
 brassinolide, 1199  
 brassinosteroid, 1199  
 BRCA1, 633  
 BRCA2, 633  
 Brf1, 1082  
 BRP (see Bruchpilot)  
 Bruchpilot (BRP), 939  
 BSE (see bovine spongiform encephalopathy)  
 budding yeast, 1082
- C**  
 C1 domain, 855  
 $\text{Ca}_v$  (see voltage-gated calcium channel)  
 CACH/VWM (see childhood ataxia with central nervous system hypomyelination/leukoencephalopathy with vanishing white matter syndrome)  
*Caenorhabditis elegans*, 64, 77, 942  
 calcium, 228, 370, 374, 468, 498, 504, 515, 1356  
 calcium-binding protein, 381  
 calcium channel, 903, 913, 939  
 calcium-dependent facilitation (CDF), 887  
 calcium-dependent inactivation (CDI), 887  
 calcium-promoted Ras inactivator (CAPRI), 846  
 calcium sensor, 931  
 calcium signalling, 381, 919, 936  
 calcium signalling microdomain, 385  
 calcium store, 922  
 calcium transport, 351  
 calmodulin (CaM), 381, 480, 887  
 $\mu$ -calpain, 51  
 CaM (see calmodulin)  
 camalexin, 1206  
 cAMP, 468, 472, 476, 484, 489, 492, 498, 502, 510, 515  
 cAMP cycling, 465  
 cAMP-dependent protein kinase (see protein kinase A)  
 cAMP microdomain, 480  
 cAMP receptor protein (CRP), 1075  
 cAMP receptor protein/fumarate and nitrate reductase regulator superfamily (CRP/FNR superfamily), 185  
 cAMP receptor protein/fumarate and nitrate reductase regulatory protein-like transcription factor (CRP/FNR-like transcription factor), 156  
 cAMP-response element (CRE)-binding protein (CREB), 936  
 cAMP signalling, 495
- cAMP-specific phosphodiesterase-4 (PDE4), 474, 504  
 cancer, 330, 581, 1114  
 cannabinoid receptor (CB receptor), 1095  
 capacitative Calcium entry (CCE), 480  
 CAPRI (see calcium-promoted Ras inactivator)  
 cardiac cell, 228  
 cardiac hypertrophy, 1138  
 cardiac myocyte, 484  
 cardiac pathology, 913  
 cardiomyocyte, 510  
 cardiovascular disease, 903  
 cardiovascular system, 960  
 caspase, 1334, 1347  
 catalyst cost, 301  
 catalytic activity, 1161  
 catalytic cycle, 136  
 catalytic domain, 989  
 catecholaminergic polymorphic ventricular tachycardia, 913  
 catenin, 1114  
 CB receptor (see cannabinoid receptor)  
 CC chemokine, 1002  
 CC chemokine receptor (CCR), 1014  
 CCE (see capacitative  $\text{Ca}^{2+}$  entry)  
 Ccm (see cytochrome *c* maturation)  
 CCR (see CC chemokine receptor)  
 CcsA, 146  
 CD45, 1041  
 CDF (see calcium-dependent facilitation)  
 CDI (see calcium-dependent inactivation)  
 cell biochemistry, 983  
 cell-cell signalling, 442  
 cell-cycle regulator, 746  
 cell death, 953  
 cell differentiation, 1133  
 cell engineering, 301  
 cell fate, 722  
 cell imaging, 495  
 cell-surface biotinylation, 894  
 cell-surface receptor, 647  
 cell survival, 1107  
 cellular immunity, 283  
 cellular proliferation, 1114  
 cellular receptor, 418  
 central nervous system (CNS), 51, 903, 1095  
 centromere complexity, 569  
 centromeric histone, 569  
 ceramide synthase, 367  
 cerebral ischaemia, 1291, 1310, 1327, 1341, 1362, 1366  
 cGMP, 512  
 cGMP-specific and -stimulated phosphodiesterases, *Anabaena* adenylate cyclases and *Escherichia coli* FhlA domain (GAF domain), 191  
 checkpoint, 554, 711  
 chemoattractant, 1014  
 chemokine, 422, 997, 1005  
 chemokine mutant, 435  
 chemokine sequestration, 1009  
 chemotaxis, 997  
 childhood ataxia with central nervous system hypomyelination/leukoencephalopathy with vanishing white matter syndrome (CACH/VWM syndrome), 22  
 chimaeric protein, 111  
 $\beta$ 2-chimaerin, 855  
 chiral amine, 287  
 chloroplast, 395  
 cholesterol, 335, 343, 392, 399, 1110, 1128  
 cholesterol homoeostasis, 1141  
 cholinergic anti-inflammatory pathway, 1037  
 chromatin, 1138  
 chromatin loop, 1133  
 chromatin remodelling, 1103  
 chromosomal exchange, 554  
 chromosome 21, 578  
 chromosome axis, 554  
 chromosome missegregation, 583  
 chromosome segregation, 537  
 chronic wasting disease (CWD), 1155  
 cis-acting RNA element, 1145  
 CJD (see Creutzfeldt-Jakob disease)  
 c-Jun N-terminal kinase (JNK)-interacting protein (JIP), 828  
 Class I phosphoinositide 3-kinase (Class I PI3K), 647  
 Class I PI3K (see Class I phosphoinositide 3-kinase)  
 clathrin, 68  
 clinical trial, 1271  
 CNG channel (see cyclic nucleotide-gated channel)  
 CNS (see central nervous system)  
 co-expression analysis, 1192  
 co-receptor, 414  
 co-stimulation, 1032  
 collybistin, 45  
 colonic epithelium, 1114  
 compartmentalization, 465, 502  
 composite sulphated region, 438  
 computer-based assignment tool, 169  
 concatenated subunit, 868  
 confocal microscopy, 48, 309, 675  
 conformational mobility, 1170  
 conifer, 1209  
 core promoter, 1051  
 cortex, 385  
 corticosterone, 1110, 1117  
 cosmid, 203  
 CREB [see cAMP-response element (CRE)-binding protein]  
 Creutzfeldt-Jakob disease (CJD), 1155  
 Crohn's disease, 263  
 crossover, 531, 537  
 crossover interference, 542  
 CRP (see cAMP receptor protein)  
 CRP/FNR-like transcription factor (see cAMP receptor protein/fumarate and nitrate reductase regulatory protein-like transcription factor)  
 CRP/FNR superfamily (see cAMP receptor protein/fumarate and nitrate reductase regulator superfamily)  
 cryo-electron microscopy, 1  
 crystallographic analysis, 587  
 crystal structure, 989, 1051, 1089  
 Csk (see C-terminal Src kinase)  
 C-terminal Src kinase (Csk), 476

- cupredoxin, 139  
 CWD (see chronic wasting disease)  
 cyanide, 152, 291  
 cyanine dye, 979  
 cybrid, 824  
 cyclic nucleotide-gated channel (CNG channel), 468, 484  
 cyclin-dependent kinase, 523  
 CYP (see cytochrome P450)  
 CYP1A (see cytochrome P450 1A)  
 CYP51 (see cytochrome P450 51)  
 CYP63 (see cytochrome P450 63)  
 CYP74 (see cytochrome P450 subfamily 74)  
 CYP79B2 (see cytochrome P450 79B2)  
 CYP85 (see cytochrome P450 85 clan)  
 CYP101 (see cytochrome P450 101)  
 CYP102 (see cytochrome P450 102)  
 CYP106A2 (see cytochrome P450 106A2)  
 CYP121 (see cytochrome P450 121)  
 CYP710A (see cytochrome P450 710A)  
 Cys-loop family, 882  
 cytochrome, 139  
 cytochrome *bc*<sub>1</sub> complex, 195  
 cytochrome *b*<sub>5</sub>, 1231  
 cytochrome *c*, 143, 1186, 1283, 1334  
 cytochrome *c* biogenesis System I, 150  
 cytochrome *c* biogenesis System II, 146  
 cytochrome *c* maturation (Ccm), 91, 150  
 cytochrome *c* nitrite reductase, 133, 146  
 cytochrome oxidase, 136  
 cytochrome P450 (CYP/P450), 975, 1159, 1161, 1165, 1170, 1173, 1178, 1183, 1186, 1192, 1199, 1202, 1209, 1215, 1219, 1223, 1228, 1231, 1236, 1241, 1246, 1252, 1256  
 cytochrome P450 1A (CYP1A), 1228  
 cytochrome P450 51 (CYP51), 1161, 1219  
 cytochrome P450 63 (CYP63), 1165  
 cytochrome P450 79B2 (CYP79B2), 1206  
 cytochrome P450 85 clan (CYP85), 1209  
 cytochrome P450 101 (CYP101), 1170  
 cytochrome P450 102 (CYP102), 1173  
 cytochrome P450 106A2 (CYP106A2), 1215  
 cytochrome P450 121 (CYP121), 1178  
 cytochrome P450 710A (CYP710A), 1202  
 cytochrome P450 reductase, 1186  
 cytochrome P450 subfamily 74 (CYP74), 1223  
 cytokine, 409, 1018  
 cytokine adjuvant, 283  
 cytoprotection, 1295  
 cytoskeletal organization, 73  
 cytosol, 492  
 cytosolic phospholipase A<sub>2</sub>, 1277  
 c-type cytochrome, 91, 150
- D**  
 D6, 1002, 1009  
 damage-associated molecular pattern (DAMP), 957  
 DAMP (see damage-associated molecular pattern)  
 DARC (see Duffy antigen receptor for chemokines)  
 decapping enzyme, 35  
 decoy receptor, 1014  
 defensin, 251, 263  
 $\beta$ -defensin, 257
- dehydroergosterol, 335  
 dendritic cell, 283, 957  
 denitrification, 94, 108, 115, 130, 139, 156, 165, 182, 185  
 denitrifier, 101  
 depolarization, 1299  
 deracemization, 287, 296  
*Desulfovibrio desulfuricans*, 122  
 detergent micelle, 1223  
 de-ubiquitinating enzyme, 746, 761, 764  
 developmental programming, 779  
 developmental timing, 663  
 DHA (see docosahexaenoic acid)  
 diabetes, 17, 243, 696, 770, 774, 798, 824  
 diabetes mellitus (Type 2), 247, 738, 779, 802, 806, 819  
 diacylglycerol, 363, 855, 858  
 differentiation, 663  
 dihydropyridine, 903  
 dihydrotestosterone, 1098  
*dilute* mouse, 671  
 dimerization, 1089  
 dinitrogenase reductase activating glycohydrolase (DRAG), 160  
 dinitrogenase reductase ADP-ribosylation transferase (DRAT), 160  
 diphthamide, 1  
 diphtheria toxin, 1  
 directed evolution, 328, 1215  
 dissimilative nitrate respiration regulator (DNR), 185  
 distantly related to SIC (DRS), 273  
 disulfide bond, 894  
 diterpene resin acid (DRA), 1209  
 DNA binding, 1089  
 DNA-binding protein inhibitor, 317  
 DNA damage, 554  
 DNA-damage sensing, 633  
 DNA double-strand break, 523  
 DNA helicase, 537  
 DNA microarray, 101  
 DNA mimicry, 317  
 DNA opening, 1067  
 DNA repair, 633, 764  
 DNA technology, 203  
 DNR (see dissimilative nitrate respiration regulator)  
 docking, 431  
 docking machinery, 691  
 docking site, 837, 975  
 docosahexaenoic acid (DHA), 1277  
 domain structure, 438  
 double Holliday junction, 542  
 Down's syndrome, 578  
 downstream core promoter element (DPE), 1047  
 DPE (see downstream core promoter element)  
 DRA (see diterpene resin acid)  
 DRAG (see dinitrogenase reductase activating glycohydrolase)  
 DRAT (see dinitrogenase reductase ADP-ribosylation transferase)  
 drift, 519  
*Drosophila*, 88, 512  
*Drosophila* embryo, 385  
*Drosophila melanogaster*, 1252  
*Drosophila simulans*, 562
- DRS (see distantly related to SIC)  
 drug discovery, 238, 313  
 druggable kinase, 1303  
 drug metabolism, 1186  
 drug target identification, 313  
 DsRed, 351  
 dual polarization interferometry, 427  
 dual-specificity phosphatase (DUSP), 1018  
 Duffy antigen, 1005, 1014  
 Duffy antigen receptor for chemokines (DARC), 1009  
 DUSP (see dual-specificity phosphatase)  
 dwarfism, 1199  
 dynamin-1, 675  
 dystroglycan, 1261
- E**  
 E3 ubiquitin ligase, 749  
 ecdysone, 1256  
 EcoKI, 330  
 EF2 (see elongation factor 2)  
 EGF (see epidermal growth factor)  
 EGFR (see epidermal growth factor receptor)  
 EIF (see eukaryotic initiation factor)  
 EIF2 (see eukaryotic initiation factor 2)  
 EIF2B (see eukaryotic initiation factor 2B)  
 elafin, 279  
 elastase, 279  
 electron transfer, 188, 1173  
 electron transport, 1183  
 electron transport chain, 130  
 elongation factor 2 (EF2), 1  
 emamectin benzoate, 1236  
 enantioconvergence, 296  
 endocytic recycling compartment, 335  
 endocytosis, 77, 754, 1024  
 endoplasmic reticulum, 351, 356, 359, 367, 385, 395, 404, 910, 922  
 endoplasmic reticulum-associated degradation (ERAD), 370  
 endoplasmic reticulum junction, 389  
 endoplasmic reticulum membrane contact site, 340  
 endosomal sterol-binding protein, 392  
 endothelial cell, 492, 1005, 1366, 1370  
 endotoxin, 270  
 energy metabolism, 811, 815  
 Epac (see exchange protein directly activated by cAMP)  
 epidermal growth factor (EGF), 754  
 epidermal growth factor receptor (EGFR), 855  
 epigenetic modification, 779  
 epigenetics, 1148  
 epilepsy, 863  
 epistasis, 519, 560  
 epithelial cell, 276  
 epithelial differentiation, 1145  
 epoxide, 291  
 ER $\beta$  (see oestrogen receptor  $\beta$ )  
 ERAD (see endoplasmic reticulum-associated degradation)  
 ergosterol, 356  
 ERK (see extracellular-signal-regulated kinase)  
 EROD (see 7-ethoxyresorufin-O-deethylase)

erythrocyte, 1005  
*Escherichia coli*, 91, 133, 200, 1183, 1231  
*Escherichia coli* flavorubredoxin, 191  
 7-ethoxyresorufin-O-de-ethylase (EROD), 1228  
 eukaryotic initiation factor (eIF), 213  
 eukaryotic initiation factor 2 (eIF2), 7  
 eukaryotic initiation factor 2B (eIF2B), 22  
 European eel [*Anguilla anguilla* (Linnaeus, 1758)], 1228  
 evolution, 526, 569, 1252  
 evolutionary genetic stability, 566  
 evolution of sex, 519  
 exchange protein directly activated by cAMP (Epac), 468  
 excitation–contraction coupling, 489  
 excitotoxicity, 936, 1307  
 exocyst, 687  
 exocytosis, 472, 671, 675, 683  
 exocytic apparatus, 696  
 exogenous sterol, 359  
 exotoxin A, 1  
 extracellular matrix, 454, 1261  
 extracellular pH, 899  
 extracellular-signal-regulated kinase (ERK), 842  
 extraembryonic calcium, 385

**F**  
 F<sub>1</sub>-ATPase, 993  
 F<sub>0</sub>F<sub>1</sub>-ATP synthase, 993  
 F-actin cortex, 671  
 Factor C, 270  
 fatty acid, 770, 802, 819, 1370  
 fatty acid synthesis, 223  
*faux* untranslated region, 39  
 ferredoxin, 1183, 1236  
 ferredoxin reductase, 1183  
 fetal growth, 779  
 FGF (see fibroblast growth factor)  
 FGF-2 (see fibroblast growth factor 2)  
 fibroblast growth factor (FGF), 409, 414, 427, 438, 442  
 fibroblast growth factor 2 (FGF-2), 17  
 fibroblast-like synoviocyte, 727  
 fibrosis, 1119  
 Fisher/Muller model, 560  
 fitness interaction, 560  
 FixLJ-FixK<sub>2</sub>-NnrR regulatory cascade, 108  
 FlAsh (see fluorescein arsenical helix binder)  
 flavocytochrome, 1173  
 flexibility, 605  
 FLIM (see fluorescence lifetime imaging microscopy)  
 fluorescein arsenical helix binder (FlAsh), 498  
 fluorescence lifetime imaging microscopy (FLIM), 679  
 fluorescence resonance energy transfer (FRET), 468, 495, 851  
 fluorescent protein, 679  
 fluorophore, 309, 983  
 fluorophore blinking, 979  
 Fn14, 1291  
 FNR (see fumarate and nitrate reductase regulatory protein)

FNR regulon (see fumarate and nitrate reductase regulon)  
 focal cerebral ischaemia, 1323  
 focal ischaemia, 1261  
 folate, 330  
 folded protein, 971  
 forkhead box O (FOXO), 722, 727, 731  
 forskolin, 492  
 Förster resonance energy transfer (FRET), 679  
 FOXO (see forkhead box O)  
 frameshift protein, 738  
 FRET (see fluorescence resonance energy transfer; Förster resonance energy transfer)  
 fumarate and nitrate reductase regulatory protein (FNR), 94  
 fumarate and nitrate reductase regulon (FNR regulon), 104  
 fungicide, 1219

**G**  
 GABA (see  $\gamma$ -aminobutyric acid)  
 GABA<sub>A</sub> (see  $\gamma$ -aminobutyric acid<sub>A</sub>)  
 GABA<sub>A</sub> receptor (see  $\gamma$ -aminobutyric acid type A receptor)  
 GAF domain (see cGMP-specific and -stimulated phosphodiesterases, *Anabaena* adenylate cyclases and *Escherichia coli* FhlA domain)  
 Gal4p, 794  
 $\gamma$ -aminobutyric acid (GABA), 868  
 $\gamma$ -aminobutyric acid<sub>A</sub> (GABA<sub>A</sub>), 48  
 $\gamma$ -aminobutyric acid<sub>A</sub> receptor interacting factor-1 (GRIF-1), 48  
 $\gamma$ -aminobutyric acid type A receptor (GABA<sub>A</sub> receptor), 863, 868, 877  
 gankyrin, 746  
 GAP1 (see GTPase-activating protein 1)  
 gating, 899  
 G-CSF (see granulocyte colony-stimulating factor)  
 GDI (see guanine nucleotide dissociation inhibitor)  
 GDNF (see glial-cell-line-derived neurotrophic factor)  
 GEF (see guanine nucleotide-exchange factor)  
 germinate process, 975  
 gene cluster, 257  
 gene conversion, 535  
 gene expression, 30, 705, 1138, 1141  
 gene expression profiling, 1313  
 gene-expression system, 324  
 gene reassembly, 1236  
 gene regulation, 156, 200, 1062  
 gene regulatory circuit, 328  
 gene transcription, 228  
 genetic code, 328  
 genetic conflict, 562  
 genetic disease, 43  
 genetic exchange, 557  
 genome analysis, 320  
 genome organization, 1133  
 genomics, 247  
 genotype, 560  
 gephyrin, 45

GFAP (see glial fibrillary acidic protein)  
 GFP (see green fluorescent protein)  
 giant fibre circuit, 81  
 GIP (see glucose-dependent insulinotropic polypeptide)  
 glial-cell-line-derived neurotrophic factor (GDNF), 458  
 glial development, 663  
 glial fibrillary acidic protein (GFAP), 51, 738  
 gliosis, 51  
 global cerebral ischaemia, 1283  
 GLP-1 (see glucagon-like peptide-1)  
 glucagon-like peptide-1 (GLP-1), 238, 498, 774  
 glucocorticoid, 1018, 1117  
 glucokinase, 238  
 glucose, 247  
 glucose-dependent insulinotropic polypeptide (GIP), 774  
 glucose homoeostasis, 209, 217  
 glucose metabolism, 806  
 glutamate, 1356  
 glutamate receptor, 927, 949  
 glutamatergic neurotransmission, 64  
 glycine receptor, 45, 55  
 glycine transporter, 55  
 glycoconjugate, 461  
 glycogen phosphorylase, 238  
 glycomics, 435  
 glycosaminoglycan, 409, 422, 435, 446  
 Golgi secretion, 377  
 GPCR (see G-protein-coupled receptor)  
 GPR40 family, 770  
 G-protein, 213, 515  
 G-protein-coupled receptor (GPCR), 435, 484, 770, 942, 1095  
 G-protein receptor kinase-2 (GRK2), 474  
 granulocyte colony-stimulating factor (GCSF), 1327  
 green fluorescent protein (GFP), 557, 851, 979  
 green oxidation, 304  
 GRIF-1 (see  $\gamma$ -aminobutyric acid<sub>A</sub> receptor interacting factor-1)  
 Griscelli syndrome, 671  
 GRK2 (see G-protein receptor kinase-2)  
 growth factor, 454, 833, 1079  
 GTPase, 209, 701  
 GTPase-activating protein, 73  
 GTPase-activating protein 1 (GAP1), 846  
 guanine nucleotide dissociation inhibitor (GDI), 971  
 guanine nucleotide-exchange factor (GEF), 22, 683, 858

**H**  
 habitat, 169  
 haem, 91, 133, 150, 1173, 1178, 1223  
 haem-copper oxidase, 188  
 haem lyase, 146  
 haemopoietic stem cell, 1327  
 haemoprotein, 1231  
 haem protein, 975  
 Halloween gene, 1256  
*Haloflexax mediterranei*, 115  
 halohydrin dehalogenase, 291  
 halophile, 115

HAMP linker, 111  
 HapMap, 535  
 HCNT1, 130  
 health policy, 1151  
 heart, 232, 489  
 heart failure, 502  
 heat-shock protein 90 (Hsp90), 783  
 heat-shock transcription factor (HSF), 783  
 heparan sulphate, 409, 414, 418, 422, 431, 438, 442, 451, 454, 458, 461  
 heparin, 409, 414, 422, 431, 442, 458  
 hepatocyte growth factor/scatter factor, 414  
 herpes simplex virus (HSV), 705  
 heterogeneous nuclear ribonucleoprotein AI (hnRNP AI), 17  
 heterologous expression, 894  
 Hey1, 1124  
 hibernation, 1295  
 high-mobility group box 1 (HMGB1), 957  
 hippocampus, 600, 949  
 histidine kinase, 111  
 histidine triad motif (HIT motif), 35  
 histone methyltransferase, 1058  
 HIT motif (see histidine triad motif)  
 HIV, 997  
 HMGB1 (see high-mobility group box 1)  
 hnRNP AI (see heterogeneous nuclear ribonucleoprotein AI)  
 Holliday junction, 537  
 homoeostasis, 731  
 homologous chromosome pairing, 545  
 homologous recombination, 523, 537, 542  
 horizontal gene transfer, 1165  
 horizontal transference, 97  
 hormonal regulation, 217  
 hormone replacement therapy, 1362  
 host defence, 283  
 hotspot, 526, 535  
 HPV-16 (see human papillomavirus type 16)  
 HSF (see heat-shock transcription factor)  
 Hsp90 (see heat-shock protein 90)  
 HSV (see herpes simplex virus)  
 5-HT (see 5-hydroxytryptamine)  
 5-HT<sub>3</sub> receptor (see 5-hydroxytryptamine type-3 receptor)  
 human 5-HT<sub>3</sub> gene, 872  
 human androgen receptor, 1098  
 human aneuploidy, 574  
 human artificial chromosome, 324  
 human genetic variation, 535  
 human genome, 526  
 human papillomavirus type 16 (HPV-16), 1145  
 hyaluronan cross-linking, 446  
 hydrazine, 174  
 hydrogen peroxide, 197  
 hydroperoxide lyase, 1223  
 hydroxylamine, 127  
 hyperthermophile, 118  
 hypertrophy, 228  
 hypoxia/ischaemia, 1347  
 20-hydroxyecdysone, 1256  
 5-hydroxytryptamine (5-HT), 872  
 5-hydroxytryptamine type-3 receptor (5-HT<sub>3</sub> receptor), 882

**I**  
 ICER (see inducible cAMP early repressor)  
 IKK [see inhibitory κB (IκB) kinase]  
 IL-10 (see interleukin-10)  
 image processing, 983  
 imaging, 851  
 imidazole, 1170  
 immediate early protein, 705  
 immune defence, 257  
 immune pathology, 1032  
 immune response, 1002, 1009, 1028  
 immune system, 1267  
 immunoglobulin (Ig) superfamily, 1024  
 immunomodulation, 476  
 importin, 701, 716  
 imprinting, 1148  
 inclusion, 743  
 incretin hormone, 774  
 inducible cAMP early repressor (ICER), 696  
 infected-cell protein 27 (ICP27), 705  
 inflammation, 446, 727, 965, 997, 1002, 1014, 1018, 1028, 1037, 1119  
 inflammatory lung disease, 276  
 influenza, 1151  
 inhibitor of cytochrome c nitrite reductase, 133  
 inhibitory κB (IκB) kinase (IKK), 1291  
 inhibitory receptor, 1032  
 inhibitory site, 989  
 initiator (Inr), 1047  
 injury, 1356  
 innate immune response, 1018  
 innate immune system, 1024  
 innate immunity, 263, 267, 276  
 inositolphosphorylceramide, 367  
 inositol 1,4,5-trisphosphate (IP<sub>3</sub>), 228, 515, 922  
 inositol 1,4,5-trisphosphate receptor (IP<sub>3</sub> receptor), 910  
 Inr (see initiator)  
 insect genome, 1252  
 insulin, 209, 213, 223, 238, 498, 774, 819  
 insulin secretion, 243, 247, 675, 802, 824  
 insulin-sensitivity, 798  
 integrin, 1261  
 inter-α-inhibitor, 446  
 interceptor, 1005  
 interferon-γ, 461  
 interleukin-6, 1310  
 interleukin-10 (IL-10), 1028  
 internalization, 757  
 internal ribosome entry site (IRES), 17  
 intra-allelic mutation, 581  
 intracellular infection, 283  
 intracellular signalling, 515, 764  
 intracellular targeting, 504  
 intracerebral haemorrhage, 1318  
 intragenomic conflict, 566  
 ion channel, 872, 882  
 ionotropic glutamate receptor, 64  
 IP<sub>3</sub> (see inositol 1,4,5-trisphosphate)  
 IP<sub>3</sub> receptor (see inositol 1,4,5-trisphosphate receptor)  
 IQ domain, 887  
 IQGAP1, 833  
 IRES (see internal ribosome entry site)  
 ischaemia, 232, 1267, 1295, 1307  
 ischaemia/reperfusion injury, 957

ischaemic injury, 1352  
 ischaemic stroke, 1313  
 islet metabolism, 802  
 isolated enzyme catalyst, 301  
**J**  
 JAK/STAT pathway (see Janus kinase/signal transducer and activator of transcription pathway)  
 Janus kinase/signal transducer and activator of transcription pathway (JAK/STAT pathway), 1267  
 jewellery residue, 152  
 JIP [see c-Jun N-terminal kinase (JNK)-interacting protein]

**K**  
 K<sub>ATP</sub> channel (see ATP-sensitive potassium channel)  
 K5 lyase, 438, 451  
 kainate receptor, 949  
 kainate receptor-interacting protein, 927  
 Kaposi's sarcoma-associated herpesvirus open reading frame 57 (ORF57) protein, 705  
 KCNK channel, 899  
 kinase anchoring, 73  
 kinase inhibitor, 1303  
 kinase suppressor of Ras (KSR), 833  
 kinesin, 48  
 kinetic analysis, 1075  
 kinetochore, 711  
 Kir6.2, 243  
 KSR (see kinase suppressor of Ras)

**L**  
 La, 12  
 laccase, 304  
 late endosome, 343  
 Lck phosphodiesterase, 476  
 leucocyte, 1002, 1009, 1014, 1024, 1313  
 leucocyte trafficking, 1005  
 leukodystrophy, 22  
 ligand migration, 975  
 ligand-binding domain, 1098  
 lipid, 335  
 lipid dynamics, 399  
 lipid homoeostasis, 363  
 lipid metabolism, 377, 389, 1110  
 lipid trafficking, 346, 395  
 lipopolysaccharide (LPS), 1352  
 lipopolysaccharide-binding peptide, 270  
 lipoprotein, 399, 1370  
 lipoprotein lipase (LPL), 1141  
 lipotoxicity, 819  
 liquid chromatography-MS, 1246  
 live-cell imaging, 983  
 liver, 1119  
 liver X receptor (LXR), 1110, 1128  
 living cell, 679  
 long-term potentiation, 600  
 low-temperature kinetics, 136  
 LPL (see lipoprotein lipase)  
 LPS (see lipopolysaccharide)  
 LXR (see liver X receptor)  
 lymphatic endothelium, 1002  
 lymphocyte, 858

- Lyp, 1041  
 lysosomal storage disease, 392  
 lysosome, 340, 922
- M**  
 macromolecular assembly, 404  
 macrophage, 1028, 1128  
 magnetic tweezers, 993  
 malate-aspartate shuttle, 811  
 male fertility, 562  
 malonyl-CoA, 223  
 Malpighian tubule, 512  
 MAM (see mitochondria-associated membrane)  
 mammal, 815  
 mammalian cell, 1079  
 mammalian exocytosis, 687  
 mammalian target of rapamycin (mTOR), 12, 213  
 MAPK (see mitogen-activated protein kinase)  
 mass spectrometry, 251  
 maternal nutrition, 779  
 matrix adhesion receptor, 1261  
 matrix metalloproteinase-7 (MMP-7), 263  
 ME7, 51  
 mechanical loading, 456  
 mechanotransducer, 456  
 mediator, 304  
 meiosis, 523, 526, 531, 537, 542, 545, 554, 557, 569, 574, 578  
 meiotic arrest, 554  
 meiotic drive, 562, 566  
 MEK (see mitogen-activated protein kinase/extracellular-signal-regulated kinase kinase)  
 melanosome transport, 691  
 membrane association, 160  
 membrane insertion, 504  
 membrane trafficking, 335, 389, 927  
 memory, 504  
 Mendelian segregation, 566  
 MENTAL domain (see MLN64 N-terminal domain)  
 MENTHO (see MLN64 N-terminal homologue)  
 metabolic pathway, 1192  
 metabolic syndrome, 798  
 metabolism, 1103  
 metabotropic glutamate receptor, 942  
 MfpA, 317  
 MG1655, 104  
 MHQ (see microsecond freeze-hyperquench)  
 microaerobiosis, 108  
 microarray, 104, 200  
 microdomain, 374  
 microfabrication, 993  
 microRNA (miRNA), 696  
 microsecond freeze-hyperquench (MHQ), 136  
 microtubule, 550, 687, 716  
 middle cerebral artery occlusion, 1095, 1362  
 mimetic, 461  
 mimicry, 612  
 minichromosome, 324  
 miRNA (see microRNA)
- mismatch repair, 542  
 mitochondria-associated membrane (MAM), 404  
 mitochondrial DNA (mtDNA), 824  
 mitochondrion, 232, 351, 370, 381, 811, 819, 953, 989, 1252, 1283, 1334, 1347  
 mitogen-activated protein kinase (MAPK), 783, 828, 833, 837, 842, 1018  
 mitogen-activated protein kinase/extracellular-signal-regulated kinase kinase (MEK), 833  
 mitosis, 385, 711, 716  
 MLN64, 343  
 MLN64 N-terminal domain (MENTAL domain), 343  
 MLN64 N-terminal homologue (MENTHO), 343  
 MMP-7 (see matrix metalloproteinase-7)  
 model organism, 43  
 modifier theory, 519  
 molecular architecture, 815  
 molecular biology, 313  
 molecular characterization, 942  
 molecular determinant, 43  
 molecular misreading, 738  
 molecular modelling, 118  
 molten globule, 1054  
 molybdenum, 118  
 mono-nitrosyl non-haem iron complex, 191  
 motif ten element (MTE), 1047  
 moult, 1256  
 mouse, 605  
 Mre11-Rad50-Xrs2 complex, 523  
 mRNA decay, 35, 39  
 mRNA degradation, 30  
 mRNA translation, 213  
 mRNA turnover, 30  
 mRNA, 12  
 mtDNA (see mitochondrial DNA)  
 MTE (see motif ten element)  
 mTOR (see mammalian target of rapamycin)  
 mucosal immunity, 273  
 multihaem c-type cytochrome McCA, 146  
 multiple phosphorylation sites, 217  
 multiprotein signalling complex, 438  
 muscarinic receptor, 1037  
 mutational landscape, 560  
*Mycobacterium tuberculosis*, 1178  
 myoglobin, 975  
 myosin Va, 671  
 myxothiazol, 139
- N**  
 NAADP (see nicotinic acid-adenine dinucleotide phosphate)  
 NADH dehydrogenase, 97  
 NADPH cytochrome c reductase, 1228  
 NADPH oxidase, 960  
 nanoparticle, 427  
 NAP (see periplasmic nitrate reductase)  
 napEDABC genes, 108  
 NarXL regulon, 104  
 NAS (see assimilatory nitrate reductase)  
 natural antisense, 1148  
 nausea, 872  
 N-dealkylation, 304  
*Neisseria gonorrhoeae*, 111  
*Neisseria meningitidis*, 139, 197  
 nerve growth factor (NGF), 587, 591, 594, 605, 612  
 nervous system, 77  
 neurodegeneration, 88, 743, 749  
 neurodegenerative disease, 1341  
 neurogenic inflammation, 591  
 neuromuscular junction, 81, 88, 939  
 neuron, 399  
 neuronal differentiation, 1287  
 neuronal necrosis, 1347  
 neuronal survival, 1277, 1287  
 neuropeptide, 591  
 neuroprotection, 936, 1095, 1271, 1310, 1318, 1323, 1327, 1341, 1352  
 neuroprotective drug, 1271  
 neurotransmission, 55, 81  
 neurotransmitter, 77, 863  
 neurotransmitter receptor, 877  
 neurotrophic factor, 1310  
 neurotrophin, 587, 594, 600, 605, 612, 1287  
 neurotrophin receptor, 607, 757  
 neurovascular imaging, 1318  
 NF- $\kappa$ B (see nuclear factor  $\kappa$ B)  
 NFAT (see nuclear factor of activated T-cells)  
 NGF (see nerve growth factor)  
 nicotinamide nucleotide transhydrogenase (Nnt), 243, 806  
 $\alpha$ 7 nicotinic acetylcholine receptor, 1037  
 nicotinic acetylcholine receptor (ACh receptor), 882  
 nicotinic acid-adenine dinucleotide phosphate (NAADP), 922  
 Niemann-Pick type C disease, 399  
 NifL-NifA system, 162  
 Nir2, 363  
 nitrate, 104, 111, 127  
 nitrate reductase evolution, 122  
 nitrate respiration, 97, 108  
 nitric oxide (NO), 130, 179, 182, 185, 191, 195, 197, 200  
 nitric oxide reductase, 188, 195  
 nitric oxide synthase, 957  
 nitrification, 179  
 nitrifier denitrification, 179  
 nitrite, 111, 127, 174, 291  
 nitrite reductase, 143  
 nitrogenase, 160  
 nitrogen cycle, 174  
 nitrogen dioxide ( $\text{NO}_2$ ), 179  
 nitrogen fixation, 156, 160, 162  
 nitrogen removal, 174  
 nitrosative stress, 197  
 NMDA receptor (see N-methyl-D-aspartate receptor)  
 NnrR, 94  
 Nnt (see nicotinamide nucleotide transhydrogenase)  
 $\text{NO}_x$  cycle, 179  
 non-coding RNA, 1148  
 non-disjunction, 574, 578  
 non-haem-iron protein, 182  
 non-motor domain, 48  
 non-N-methyl-D-aspartate receptor, 64  
 NorR, 191  
 Nrf, 200

- NrfA, 143, 146  
 nuclear envelope, 340  
 nuclear export, 842  
 nuclear factor  $\kappa$ B (NF- $\kappa$ B), 764, 1291  
 nuclear factor of activated T-cells (NFAT), 228  
 nuclear orphan receptor, 1107  
 nuclear pore, 711  
 nuclear pore complex, 701  
 nuclear protein import cycle, 701  
 nuclear receptor, 1089, 1103, 1110, 1341  
 nuclear receptor signalling, 1117  
 nuclear transport, 701, 705  
 5'-nucleotidase, 374  
 nucleotide addition cycle, 1062  
 nucleus-vacuole junction, 340  
 Nudix motif, 35  
*Nur77*, 1107  
 nutrient sensing, 770  
*N*-methyl-D-aspartate receptor (NMDA receptor), 55, 877, 936
- O**  
 obesity, 770  
 ocr, 317  
 oestrogen, 1362  
 oestrogen receptor  $\beta$  (ER $\beta$ ), 1114  
 oligaemia, 1295  
 oligodendrocyte precursor, 663  
 oligomerization, 45  
 one-dimensional gel electrophoresis, 1246  
 oocyte, 574  
 ootid competition, 569  
 ORP (see oxysterol-binding-protein-related protein)  
 OSBP (see oxysterol-binding protein)  
 Osh protein, 356  
 Osh4p, 389  
 ovarian tumour protease, 764  
 OX40, 1032  
 oxidative metabolic profiling, 1241  
 oxidative stress, 197, 806, 824, 960, 1366  
 oxidized metabolite, 1241  
 oxylipin, 1223  
 oxysterol-binding protein (OSBP), 359, 389  
 oxysterol-binding-protein-related protein (ORP), 389  
 2-oxoacid dehydrogenase, 815
- P**  
 p50, 351  
 p53 up-regulated modulator of apoptosis (PUMA), 727  
 p53, 1283  
 p53, 17  
 p62, 735, 757  
 p75, 607  
*P450* (see cytochrome P450)  
 P450 classification, 1159  
 P450foxy, 1165  
 P450ome, 1165  
*pad3*, 1206  
 Paget's disease of bone (PDB), 735  
 pain, 965  
 pairing centre, 545  
 pancreatic acinar cell, 381  
 pancreatic duodenal homeobox-1 (PDX-1), 791  
 pandemic, 1151  
 Paneth cell, 263  
*Paracoccus denitrificans*, 94, 136, 188  
 paralytic mutant, 81  
 parathyroid hormone, 515  
 parkin, 749  
 parkinsonism, 749  
 Parkinson's disease (PD), 749  
 partitioning, 1072  
 PASK (see Per-Arnt-Sim kinase)  
 patch-clamp recording, 910  
 pathological phenotype, 872  
 pausing, 1062  
 PCR amplification, 101, 169  
 PD (see Parkinson's disease)  
 PDB (see Paget's disease of bone)  
 PDE (see phosphodiesterase)  
 PDE3B (see phosphodiesterase 3B)  
 PDE4 (see cAMP-specific phosphodiesterase-4)  
 PDGF (see platelet-derived growth factor)  
 PDX-1 (see pancreatic duodenal homeobox-1)  
 PEGA [see poly(ethylene glycol) acrylamide]  
 Per-Arnt-Sim kinase (PASK), 791  
 pericellular matrix, 456  
 pericyte recruitment, 454  
 peripheral blood, 1313  
 periplasmic nitrate reductase (NAP), 122  
 perirhinal cortex, 949  
 perlecan, 456  
 permeability transition pore, 232  
 peroxisome-proliferator-activated receptor (PPAR), 1095, 1341  
 peroxisome-proliferator-activated receptor  $\alpha$  (PPAR $\alpha$ ), 1128  
 peroxisome-proliferator-activated receptor  $\gamma$  co-activator-1 $\alpha$  (PGC-1 $\alpha$ ), 1103  
 peroxynitrite, 953, 965  
 PGC-1 $\alpha$  (see peroxisome-proliferator-activated receptor  $\gamma$  co-activator 1 $\alpha$ )  
 PH domain (see pleckstrin homology domain)  
 phage lambda, 203  
*Phanerochaete chrysosporium*, 1165  
 phenobarbital, 1252  
 phenol biodegradation, 165  
*PHO2*, 786  
 phorbol ester, 855  
 phosphatase and tensin homologue deleted on chromosome 10 (PTEN)-induced putative kinase 1 (PINK1), 749  
 phosphatidic acid, 363, 395, 504  
 phosphatidylcholine, 377  
 phosphatidylinositol, 363  
 phosphatidylinositol-transfer protein (PITP), 346, 377  
 phosphatidylserine traffic, 404  
 phosphodiesterase (PDE), 468, 480, 484, 495, 510, 512  
 phosphodiesterase 3B (PDE3B), 502  
 phosphoinositide, 647  
 phosphoinositide 3-kinase (PI3K), 12, 722, 727, 731, 851  
 phosphoinositide 3-kinase  $\gamma$  (PI3K $\gamma$ ), 502  
 phospholamban (PLB), 489  
 phospholipase C $\gamma$  (PLC $\gamma$ ), 855  
 phospholipase D (PLD), 346  
 phospholipid, 270  
 phosphoproteome, 59, 1303  
 phosphorylation, 722, 791, 794, 842, 1107, 1299  
 phosphorylation/dephosphorylation, 217  
 photobleaching, 979  
 photosynthesis, 619  
 Photosystem II, 619  
 phytoalexin, 1206  
 phytohormone, 1209  
 PI3K (see phosphoinositide 3-kinase)  
 PI3K $\gamma$  (see phosphoinositide 3-kinase  $\gamma$ )  
 PICK1 (see protein that interacts with protein C-kinase 1)  
 pipifrin- $\alpha$ , 1283  
 PINK1 [see phosphatase and tensin homologue deleted on chromosome 10 (PTEN)-induced putative kinase 1]  
 PITP (see phosphatidylinositol-transfer protein)  
 PKA (see protein kinase A)  
 PKB (see protein kinase B)  
 planctomycete, 174  
 plant, 531, 1202  
 plant pathogen, 1219  
 plant steroid hormone, 1199  
 plasma membrane, 68, 910  
 plasmacytoid dendritic cell, 1024  
 plasmid maintenance, 1072  
 plasmid replication, 1072  
 plasmid transfer, 1072  
 platelet-derived growth factor (PDGF), 454  
 PLB (see phospholamban)  
 PLC $\gamma$  (see phospholipase C $\gamma$ )  
 PLD (see phospholipase D)  
 pleckstrin homology domain (PH domain), 647, 846  
 poly(ethylene glycol) acrylamide (PEGA), 309  
 polyamine, 330  
 polyglutamine disease, 738  
 polymorphism, 535, 872, 1186  
 polyunsaturated fatty acid (PUFA), 77  
 postsynaptic density-95 (PSD-95), 877  
 post-transcriptional control, 30  
 post-translational control, 1107  
 post-translational modification, 91, 150, 997  
 potassium channel, 899  
 PPAR (see peroxisome-proliferator-activated receptor)  
 PPAR $\alpha$  (see peroxisome-proliferator-activated receptor  $\alpha$ )  
 preconditioning, 1307  
 pregnane X receptor (PXR), 1119  
 pre-initiation complex, 1051  
 primate evolution, 257  
 prion disease, 51  
 prion protein (PrP), 1155  
 programmed cell death, 1334  
 proNGF, 605  
 propeptide region, 257  
 prostate cancer, 1098

prostate cancer therapy, 1124  
 protease, 997  
 protease network, 446  
 proteasome, 761  
 26S proteasome, 746  
 $\alpha$ 1 proteinase inhibitor, 279  
 protein dynamics, 979  
 protein engineering, 301, 435  
 protein film voltammetry, 133  
 protein function, 59  
 protein–glycosaminoglycan interaction, 427  
 protein kinase, 7  
 protein kinase A (PKA), 465, 472, 474, 476,  
     489, 498, 510, 1299  
 protein kinase B (Akt/PKB), 209, 731, 851,  
     1295  
 protein kinase CK2, 1303  
 protein misfolding, 43  
 protein phosphatase, 842  
 protein phosphatase type 2C, 1370  
 protein–protein interaction, 162, 317, 679,  
     971, 1054  
 protein–proteoglycan interaction, 442  
 protein structure, 431  
 protein structure–function, 320  
 protein surface, 431  
 protein synthesis, 12, 328, 600  
 protein targeting, 910  
 protein that interacts with protein C-kinase  
     1 (PICK1), 931  
 protein tyrosine phosphatase, 1041  
 proteoglycan, 409, 422, 451  
 proteolytic processing, 894  
 proteome, 59  
 proteomics, 1246  
 prothoracic gland, 1256  
 proton-transfer pathway, 188  
 PrP (see prion protein)  
 PSD-95 (see postsynaptic density-95)  
*Pseudomonas*, 152  
*Pseudomonas aeruginosa*, 185  
 PtdIns(3,4,5)P<sub>3</sub>, 647  
 PUFA (see polyunsaturated fatty acid)  
 PUMA (see p53 up-regulated modulator of  
     apoptosis)  
 purine nucleotide biosynthesis, 786  
 PXR (see pregnane X receptor)  
 pyruvate dehydrogenase, 815  
 pyruvate dehydrogenase complex, 217  
 pyruvate dehydrogenase kinase  
     isoenzyme, 217

**Q**  
 quartz crystal microbalance-dissipation, 427

**R**  
 Rab, 209, 696  
 Rab27 effector, 691  
 Rab GTPase, 683  
 rabphilin, 691  
 Rab protein, 392  
 Rac1, 855  
 RACE (see rapid amplification of cDNA ends)  
 racemate, 296  
 Raf kinase (see Ras-activated factor kinase)  
 raft, 374  
 Ral, 851  
*Ralstonia eutropha* H16, 182

Ran, 701, 716  
 randomized clinical trial, 1323  
 Ran GTPase, 711  
 ranolazine, 238  
 RANTES (see regulated upon activation,  
     normal T-cell expressed and secreted)  
 rapid amplification of cDNA ends (RACE),  
     942  
 Ras, 846  
 Ras-activated factor kinase (Raf kinase),  
     1287  
 RASAL (see Ras-GTPase-activating-like  
     protein)  
 RasGRP (see Ras guanine nucleotide  
     releasing protein)  
 Ras-GTPase-activating-like protein (RASAL),  
     846  
 Ras guanine nucleotide releasing protein  
     (RasGRP), 858  
 reactive nitrogen species, 953  
 reactive oxygen species, 802, 806, 919,  
     953, 960, 965  
 receptor-interacting protein 140 (RIP140),  
     1103  
 receptor tyrosine kinase, 414  
 recognition sequence, 320  
 recombination, 519, 526, 531, 535, 545,  
     574, 578, 581  
 recombineering, 203  
 recruitment, 1075  
 red fluorescent protein, 557  
 Red Queen hypothesis, 519  
 redox regulation, 162, 919  
 redox shuttle, 811  
 redox signalling, 960  
 redox system, 1178  
 regulated upon activation, normal T-cell  
     expressed and secreted (RANTES), 422  
 regulation of anaerobic metabolism, 104  
 regulatory system, 200  
 renal epithelium, 512  
 reperfusion, 1366  
 repressor element 1-silencing transcription  
     factor (REST), 1138  
 respiratory infection, 276  
 respiratory nitrate pathway, 115  
 REST (see repressor element 1-silencing  
     transcription factor)  
 restricted diffusion, 495  
 restriction, 330  
 restriction endonuclease, 203  
 retention motif, 454  
 retina development, 663  
 retinal precursor, 663  
 rheumatoid arthritis, 727  
*Rhizobium* *sullae*, 130  
 Rho GTPase, 971  
*Rhodobacter capsulatus*, 127  
*Rhodospirillum rubrum*, 160  
 ribonuclease, 30  
 ribosomal RNA gene, 1079  
 ribosome–mRNA pair, 328  
 riboswitch, 330  
 rifampicin, 1119  
 RIP140 (see receptor-interacting protein  
     140)  
 RNA polymerase, 1058, 1062, 1067, 1075,  
     1133

RNA polymerase I, 1079  
 RNA polymerase II, 1047, 1051  
 RNA polymerase III, 1082  
 RNA processing, 1145  
 Robertsonian translocation, 569  
 Robo, 418  
 rolipram, 474  
 root-specific gene, 1192  
 rotary molecular motor, 993  
 rRNA, 1079  
 ryanodine receptor, 370, 919  
 ryanodine receptor mutation, 913

**S**  
*Saccharomyces cerevisiae*, 359  
 sAPP $\alpha$  (see soluble amyloid precursor  
     protein)  
 sarcoplasmic/endoplasmic-reticulum  
     Ca<sup>2+</sup>-ATPase 2 (SERCA2), 489  
 sarcoplasmic reticulum, 919  
 SARS (see severe acute respiratory  
     syndrome)  
 SAXS (see small angle X-ray scattering)  
 scaffold, 833, 1310  
 scaffolding protein, 472  
 scaffold protein, 828, 837  
 SCP (see sterol carrier protein)  
 scrapie, 1155  
 Sec14 homologue, 377  
 Sec14p, 346  
 second messenger, 495  
 $\gamma$ -secretase, 607  
 secretory granule, 671, 691  
 secretory leucocyte proteinase inhibitor  
     (SLPI), 279  
 secretory vesicle, 683, 687  
 segregation distortion, 566  
 selective sweep, 562  
 selenate reductase, 118  
 semi-aerobic growth, 94  
 sepsis, 1028  
 sequestosome 1 (SQSTM1), 735  
 SERCA2 (see  
     sarcoplasmic/endoplasmic-reticulum  
     Ca<sup>2+</sup>-ATPase 2)  
 serine- and arginine-rich protein (SR  
     protein), 1145  
 serine palmitoyltransferase, 367  
 Set2 Rpb1-interacting domain (SRI  
     domain), 1058  
 severe acute respiratory syndrome (SARS),  
     1151  
 sex ratio, 562  
 sexual recombination, 560  
 SHP-1 (see Src homology 2  
     domain-containing protein tyrosine  
     phosphatase 1)  
 sialic acid, 1024  
 SIC (see streptococcal inhibitor of  
     complement)  
 siderophore, 152  
 $\sigma^{54}$  factor, 182, 191, 1067  
 $\sigma$  factor, 94  
 signalling, 647  
 signalling cross-talk, 798  
 signalling receptor, 461  
 signal transducer and activator of  
     transcription 3 (STAT3), 1028

- signal transducing adapter molecule (STAM), 754  
 signal transduction, 502  
 simulated annealing, 431  
 single-channel recording, 882  
 single molecule, 983  
 single-molecule enzymology, 979  
 single-molecule measurement, 993  
 single stereoisomer, 296  
*Sip4p*, 794  
 sirohaem nitrite reductase, 195  
 SL-1 (see splice leader-1)  
 Slit, 418  
 SLPI (see secretory leucocyte proteinase inhibitor)  
*Slt2(Mpk1)p*, 783  
 Smad, 761  
 Smad-ubiquitin regulatory factor (Smurf), 761  
 small angle X-ray scattering (SAXS), 605  
 small GTPase, 846  
 small intestine, 263  
 small ubiquitin-related modifier (SUMO), 1295  
 smooth endoplasmic reticulum, 370  
 smooth muscle, 374  
 Smurf (see Smad-ubiquitin regulatory factor)  
 SNARE (see soluble *N*-ethylmaleimide-sensitive fusion protein-attachment protein receptor)  
 SOCS (see suppressor of cytokine signalling)  
 sodium channel, 1299  
 soil micro-organism, 101  
 SOL-1, 64  
 solid-phase synthesis, 309  
 soluble amyloid precursor protein (sAPP $\alpha$ ), 1277  
 soluble *N*-ethylmaleimide-sensitive fusion protein-attachment protein receptor (SNARE), 683  
 soluble nitrate reductase, 122  
 somatic cell, 583  
 somatosensory cortex, 949  
 sorting, 757  
 soya bean root nodule, 195  
 sphingolipid, 356  
 sphingolipid biosynthesis, 367  
 spinal bulbar muscular atrophy, 1098  
 spindle, 711, 716  
 spindle assembly checkpoint, 583  
 splice leader-1 (SL-1), 942  
 splice variant, 927  
 splicing, 45  
*Spo11*, 523  
 SQSTM1 (see sequestosome 1)  
 squid giant synapse, 68  
 Src homology 2 domain-containing protein tyrosine phosphatase 1 (SHP-1), 1041  
 SRI domain (see Set2 Rpb1-interacting domain)  
 SR protein (see serine- and arginine-rich protein)  
 STAM (see signal transducing adapter molecule)  
 START domain (see steroidogenic acute regulatory lipid transfer domain)
- STAT3 (see signal transducer and activator of transcription 3)  
 status epilepticus, 1347  
*Ste7*, 837  
 stereoinversion, 287  
 steroid, 1215  
 steroid hormone receptor, 1054  
 steroidogenic acute regulatory protein-related lipid transfer domain (START domain), 343  
 sterol 14 $\alpha$ -demethylase, 1161  
 sterol  $\Delta^{22}$ -desaturase, 1159, 1202  
 sterol carrier protein (SCP), 335  
 sterol trafficking, 356, 359  
 sterol transport, 392  
 stigmasterol, 1202  
 store-operated calcium entry, 910  
 streptococcal inhibitor of complement (SIC), 273  
 streptococci, 273  
*Streptomyces coelicolor*, 1183  
 stress response, 7  
 stroke, 1267, 1271, 1291, 1307, 1323, 1362  
 structural biology, 887  
 substrate preference, 1161  
 $\alpha_2\delta$  subunit, 894  
 subunit positioning, 868  
 subunit specificity, 868  
 subventricular zone, 1310  
 subversion, 273  
 sulphatase, 296  
 sulphonylurea, 243  
 SUMO (see small ubiquitin-related modifier)  
 superoxide, 197, 965  
 suppressor of cytokine signalling (SOCS), 1267  
 surface chemistry, 309  
 Sushi peptide, 270  
 symbiosis, 156  
 synapse, 43, 59, 64, 877, 931  
 synapsis, 545  
 synaptic function, 43  
 synaptic meiosis, 550  
 synaptic plasticity, 59, 600, 939, 949  
 synaptic transmission, 55, 88  
 synaptic vesicle, 68, 77  
 synaptic vesicle cycle, 81  
 synaptosome, 59  
 synaptotagmin-like protein, 691  
 synchrotron radiation CD spectroscopy, 427  
 syndecan, 418  
 syntaxin, 81  
 synthetic biology, 328
- T**
- talin, 971  
 TALK channel, 899  
 tandem MS, 1246  
 target membrane soluble *N*-ethylmaleimide-sensitive fusion protein-attachment protein receptor (t-SNARE), 346  
 TASK-2 channel, 899  
 TATA box, 1047, 1051  
 TATA-box-binding protein (TBP), 1082  
 tauopathy, 88
- TB (see tuberculosis)  
 TBP (see TATA-box-binding protein)  
 T-cell, 476  
 T-cell receptor (TCR), 858, 1041  
 TCR (see T-cell receptor)  
 TCSPC (see time-correlated single-photon counting)  
 telomerase, 581  
 telomere, 550, 581  
 telomere bouquet, 545  
 temperature-gradient gel electrophoresis (TGGE), 165  
 terminal restriction fragment, 169  
 terpenoid, 1209  
 tether, 683  
 TFIIB (see transcription factor IIB)  
 TGF- $\beta$  (see transforming growth factor  $\beta$ )  
 TGGE (see temperature-gradient gel electrophoresis)  
 therapeutic agent, 587  
 therapeutic strategy, 743, 1313  
 therapy, 313  
 thermophile, 97  
 thermophilic haemoprotein, 1170  
*Thermus*, 97  
 thiazolidinedione, 1341  
 thiol modification, 919  
 three-dimensional imaging, 675  
 thrombolysis, 1271, 1318, 1323  
 thylakoid membrane, 395  
 time-correlated single-photon counting (TCSPC), 679  
 tissue plasminogen activator (tPA), 1318  
 TLR (see Toll-like receptor)  
 TNF (see tumour necrosis factor)  
 Tn5 transposition, 320  
 tobacco cell suspension culture, 1241  
 tolerance, 1352  
 Toll-like receptor (TLR), 957, 1352  
 tPA (see tissue plasminogen activator)  
 trafficking, 48, 877, 1128  
 transactivation domain, 1054, 1098  
 transcript elongation, 1062  
 transcription, 115, 786, 1054, 1062, 1072, 1075, 1089, 1148  
 transcriptional activation, 182, 794  
 transcriptional regulation, 185, 783, 1128  
 transcriptional regulator, 794  
 transcription elongation, 1079  
 transcription factor, 696, 791  
 transcription factor IIB (TFIIB), 1047, 1051  
 transcription factory, 1133  
 transcription initiation factor, 1082  
 transforming growth factor- $\beta$  (TGF- $\beta$ ), 458, 761, 1119, 1141  
 transgenic mouse, 17  
 transgenic plant tissue, 1241  
 translation, 12, 22  
 translational control, 7, 17  
 translation regulation, 22  
 translation termination, 39  
 translocation, 791  
 transmembrane domain, 882  
 transmissible spongiform encephalopathy (TSE), 1155  
 transporter, 127  
 transporting epithelium, 512  
 transposon, 320

*trans*-Golgi network, 363  
 trial development, 1271  
 triazole, 1219  
 2,4,6-trinitrotoluene (TNT), 1228  
 trisomy, 578  
 Trk (see tropomyosin receptor kinase)  
 TrkA (see tropomyosin receptor kinase A)  
 tropomyosin receptor kinase (Trk), 607,  
   612  
 tropomyosin receptor kinase A (TrkA), 587,  
   757  
*Trypanosoma brucei*, 557  
 trypanosome, 1161  
 TSC (see tuberous sclerosis complex)  
 TSE (see transmissible spongiform  
   encephalopathy)  
 tsetse fly, 557  
 TSG-6, 446  
 t-SNARE (see target membrane soluble  
   *N*-ethylmaleimide-sensitive fusion  
   protein-attachment protein receptor)  
 tuberculosis (TB), 283  
 tuberous sclerosis complex (TSC), 213  
 tumour, 722  
 tumour necrosis factor (TNF), 607, 1037,  
   1352  
 tumour necrosis factor (TNF)-like weak  
   inducer of apoptosis (TWEAK), 1291  
 tumour suppressor, 633, 746  
 tungsten, 118  
 TWEAK [see tumour necrosis factor  
   (TNF)-like weak inducer of apoptosis]  
 tyrosine kinase, 1299  
 tyrosine nitration, 965

**U**

UBA domain (see ubiquitin-associated  
   domain)

ubiquitin, 735, 738, 746, 757  
 ubiquitin-associated domain (UBA domain),  
   735  
 ubiquitination, 404, 754, 761  
 ubiquitin C-terminal hydrolase, 764  
 ubiquitin-proteasome system, 743  
 ubiquitin-specific processing protease Y  
   (UBPY), 754  
 UBPY (see ubiquitin-specific processing  
   protease Y)  
 UDP-glucuronosyltransferase, 1228  
 ultradian rhythm, 1117  
 uncoupling protein, 802  
 unnatural amino acid, 287  
 uracil glycosylase, 317  
 UV irradiation, 7  
 UV-visible spectroscopy, 136

**V**

vagus nerve, 1037  
 vascular cell type, 731  
 vascular endothelial growth factor (VEGF),  
   451  
 vasodilator-stimulated phosphoprotein  
   (VASP), 45  
 VASP (see vasodilator-stimulated  
   phosphoprotein)  
 vector, 324  
 VEGF (see vascular endothelial growth  
   factor)  
 vesicle docking, 687  
 vesicle dynamics, 247  
 vesicle fusion, 939  
 vesicle recycling, 68  
 vesicle trafficking, 687  
 vinculin, 971  
 viral mRNA export, 705  
 virus, 1151

voltage-gated calcium channel ( $\text{Ca}_V$ ), 887,  
   894  
 voltage-gated L-type calcium channel,  
   903

**W**

WAP domain (see whey acidic protein  
   domain)  
 water splitting, 619  
 WAVE (see Wiskott–Aldrich syndrome  
   protein verprolin homologous  
   protein)  
 whey acidic protein domain (WAP domain),  
   267  
 whole-cell biocatalysis, 1215  
 whole-cell catalyst, 301  
 Wiskott–Aldrich syndrome protein verprolin  
   homologous protein (WAVE protein),  
   73  
*Wolinella succinogenes*, 146

**X**

X-ray crystallography, 1058  
 xenobiotic, 1231  
 xenobiotic metabolism, 1159, 1241

**Y**

yeast, 39, 340, 346, 356, 367, 377, 404,  
   550, 786, 837, 1058  
 yeast cell integrity, 783

**Z**

zebrafish, 451  
 Zn(II)<sub>2</sub>Cys<sub>6</sub> protein, 794