<table>
<thead>
<tr>
<th>Index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>B</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>C</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>D</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Denervation ................................................. 200, 208, 302, 303
Dentate gyrus ............................................... 302–304
Dermatan .......................................................... 44
Diabetic neuropathy .................................. 172, 211–212
Dorsal root ganglia (DRGs) .................. 5–8, 12–14, 196, 211–212

2D-PAGE. See Two-dimensional polyacrylamide gel electrophoresis (2D-PAGE)

DRGs. See Dorsal root ganglia (DRGs)

Dynein.......................................................... 12, 20, 34, 46, 78–79, 153, 154, 185–186, 195, 196, 198, 199, 203, 252

E

EB1 .......................................................... 285, 286, 290
EC. See Entorhinal cortex (EC)

EGFP. See Enhanced green fluorescence protein (EGFP)

Electrical synapse ........................................... 14, 135–147


Electrospray ionization (ESI) .......... 90, 93, 94, 136, 345

EM. See Electron microscopy (EM)

EMCCD camera ...................................................... 32


Enhanced green fluorescence protein (EGFP) .................................................. 238, 242, 244, 247, 248, 250–251, 253–256, 258, 259

Entorhinal cortex (EC) .................. 302–305

ESI. See Electrospray ionization (ESI)

Extracellular matrix ........................................ 43, 45–47, 50–52, 77, 267, 303, 323–324

F

Fabric topology .................................................. 121

Fluorescence recovery after photobleaching (FRAP) ........................................ 11, 13, 65, 73, 197, 285–286

Fluorescent actin ........................................ 24–25

Focal adhesion ................................................ 46, 53, 77

Fourier transform ion cyclotron resonance (FT-ICR) ........................................ 95, 96

FRAP. See Fluorescence recovery after photobleaching (FRAP)

Freeze substitution (FS) ........................................... 48

Frontotemporal dementia (FTD) ............... 153, 211, 327

FS. See Freeze substitution (FS)

FTD. See Frontotemporal dementia (FTD)

FT-ICR. See Fourier transform ion cyclotron resonance (FT-ICR)

G

GAGs. See Glycosaminoglycans (GAGs)

GAN. See Giant axonal neuropathy (GAN)

Gap junctions (GJ) ........................................... 4, 136, 138, 146, 284–288, 300

GC. See Growth cone (GC)

Gene expression stability (GES) .................. 124, 125

GES. See Gene expression stability (GES)

Giant axonal neuropathy (GAN) ........... 172, 208–211

GJ. See Gap junctions (GJ)


Gliarial inclusion body ........................................ 327, 328

Gliosis .......................................................... 211, 300–301, 303, 306

Glycocalyx .................................................. 43–60

Glycosaminoglycans (GAGs) .................. 44, 45

Glycosylphosphatidylinositol (GPI) anchor ........ 44

GPI anchor. See Glycosylphosphatidylinositol (GPI) anchor

Growth cone (GC) ........................................ 4, 8, 9, 13–14, 77, 155, 182, 237–259

H

HA. See Hyaluronic acid (HA)

Heat shock proteins (HSPs) ............. 14, 208, 326–329, 331

Heparan sulfate ........................................... 44, 48, 50, 51, 54, 56, 57

Heparin .................................................. 44, 48, 54, 55

High pressure liquid chromatography (HPLC) .................................. 90, 92–94, 102–105, 107, 141, 344–345

High signal detection ............................... 31

Hippocampus ........................................ 14, 49, 152, 154, 301–303, 307

HSPs. See Heat shock proteins (HSPs)

Hyaluronic acid (HA) .................. 44, 51–53, 56

I

Ibotenic acid ...................................................... 304

IEF. See Isoelectric focusing (IEF)

IFs. See Intermediate filaments (IFs)

Image analysis ........................................ 8–12, 20, 67, 77, 162–164, 290

ImageJ .................................................. 34–37, 50, 51, 58, 163

In-gel digestion ........................................ 87, 90, 92, 140–142, 344, 345

In-solution digestion .................................. 87, 137, 141, 345, 346

Instability .................................................. 4, 12, 14, 64, 65


α-Internexin ........................................ 171–174, 197–198, 201, 204, 210, 211

Ion trap analyser (IT) ........................................... 95

IP. See Co-immunoprecipitation (IP)

Ischemic damage ........................................... 309

Isoelectric focusing (IEF) .............. 88–89, 91, 341–343

IT. See Ion trap analyser (IT)

K

Keratin .................................................. 12–13, 44
Parkinson disease (PD) ........................................... 152, 172, 183–184, 212–213, 327, 328
PC12 cells ........................................................................ 158
PD. See Parkinson disease (PD)
Pearson’s correlation coefficient .......... 124–125, 130–131
Penumbra ........................................................................ 305, 307, 309
Peptide mass fingerprinting (PTMs) ......... 96
Perikaryon ........................................................................ 5, 10, 182, 185
Peripherin ........................................................................ 154, 172, 173, 177, 186, 197, 200–202, 204, 210
PGA. See Prominent gene analysis (PGA)
Phalloidin ................................................................. 20, 25, 30, 53, 56, 67, 68, 244
Photobleaching ........................................................ 9–11, 13
Photodamage .................................................................... 29, 31–32
Photothrombotic stroke ........................................... 305–309
PKA. See Protein kinase A (PKA)
Plectin .............................................................................. 186
PLP. See Proteolipid protein (PLP)
Polarity .............................................................................. 23–24, 34, 45–46, 63–64, 152, 155, 238, 249–250, 252–253
Polarity marked microtubules ................. 23–24
Polyneuropathy .................................................................. 155–156
Post-synaptic densities (PSDs) ...................... 265–278
Post-translation modifications (PTMs) ......... 85, 86, 88, 89, 95–97, 102, 106, 136, 155, 156, 161, 173, 175, 176, 178–183, 212
Pressure microinjection .............................................. 7–8, 242
Prominent gene analysis (PGA) ................. 121, 129
Protein kinase A (PKA) .............................................. 144, 175, 178, 179, 206–207
Protein profiling .............................................................. 86
Proteoglycans .................................................................. 44, 45, 49–51, 53, 57, 59, 60
Proteolipid protein (PLP) ................................. 325, 330, 339, 341–344, 348
Proteome ................................................................. 85, 86, 89, 96, 100, 266, 275, 302, 335–349
Proximal zone (PZ) ..................................................... 240, 245–249, 256, 258
PSDs. See Post-synaptic densities (PSDs)
Purkinje cells ................................................................. 6–8, 10, 11, 14
PZ. See Proximal zone (PZ)
Q
qICC. See Quantitative immunocytochemistry (qICC)
Quantitative immunocytochemistry
(qICC) ........................................................................ 287, 291–292, 294
Quantitative Western blot (qWB) ................... 287, 290–292, 294
qWB. See Quantitative Western blot (qWB)
R
Rapid freezing ................................................................. 48
Restructuring ................................................................. 238, 239, 247–250, 252–255, 257–259
Rho–associated kinase .................................................. 178
Rhodamine-labeled tubulin ............................... 20, 242, 247
Rose chamber ............................................................... 8
S
Scaffolding proteins ....................................................... 45, 77, 119, 186, 265–266, 286, 288, 326
SDS-PAGE. See Sodium dodecyl sulfate-polyacrylamide gel electrophoresis (SDS-PAGE)
SEQUEST ........................................................................ 142, 143, 145
Shotgun proteomic analysis ............................ 138, 141, 143
siRNA. See Small interference RNA (siRNA)
Small interference RNA (siRNA) ......................... 73, 286, 287, 289–293, 311
SNAP-25 ........................................................................ 250–253
SOD-1. See Superoxide dismutase-1 (SOD-1)
Spectrin ................................................................. 46, 52, 77, 78, 195, 239, 244–245, 254–257, 259
Stroke .............................................................................. 79, 270, 273, 300, 302, 305–314, 330
Superoxide dismutase-1 (SOD-1) ..................... 153, 181, 200, 201, 203–205, 211
Synapse .......................................................................... 7, 14, 135–147, 182, 265, 266, 275, 300–303
Syndecan ................................................................. 44–47, 53
Syndecan-1 ................................................................. 44–45, 51–53, 57
α-Synuclein ................................................................. 212, 327, 328
T
Tandem MS analyses (MS/MS) .................. 95, 137, 142
Tau ................................................................................. 46, 152, 153, 155, 156, 163, 164, 180, 185, 204, 205, 211, 238, 325–329, 331
Tauopathy ................................................................. 153, 155, 156, 164, 327
Taxol ............................................................................. 20, 22–24, 28, 30, 138, 325, 327, 328, 330, 331
Tms. See Tropomyosin (Tms)
Trafficking ................................................................. 4–5, 19–37, 119, 152, 153, 284–285, 288, 301, 324, 347
Transcriptome .......................................................... 119–132
Transcriptomic distance ....................................... 128, 132
Transfection ............................................................... 12, 289–290
Transition zone (TZ) ................................................... 13–14, 240, 245–248, 252, 254, 256, 258, 259
Tripod proteins .......................................................... 171–173
Tropomyosin (Tms) ................................................... 69, 72, 73, 76, 77, 290
β-Tubulin ................................................................. 46, 154–156, 163, 327
Two-dimensional polyacrylamide gel electrophoresis (2D-PAGE) .................. 88–91, 101
TZ. See Transition zone (TZ)

U

Ubiquitin .......................................................... 49, 85, 171, 181, 183, 202, 209, 212–214, 326–328

V

Vascular endothelial growth factor (VEGF) .................. 14
VEGF. See Vascular endothelial growth factor (VEGF)

Versican ........................................................................ 44
Vesicle trafficking assay ......................... 20, 24, 28–31, 33, 34, 37
Villin .............................................................................. 43, 45
Vimentin ............................................. 12–13, 46, 52, 172, 210, 301–303, 306

W

Wallerian degeneration ......................................... 181, 182, 303
Western blot ......................................................... 31, 53, 54, 56, 58–59, 87, 88, 137–139, 161, 294