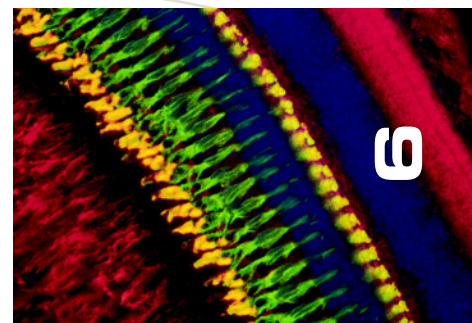


# Chapter 6

## Ultrasensitive Detection Technology



<b>Section 6.1 — Introduction to Detection Methods</b> .....	<b>149</b>
Definitions: Detection Reagents .....	150
Primary Detection Reagents .....	150
Secondary Detection Reagents .....	150
Common Experimental Protocols for Primary and Secondary Detection Reagents .....	151
<b>Section 6.2 — Tyramide Signal Amplification (TSA) Technology</b> .....	<b>152</b>
Principles of Tyramide Signal Amplification .....	152
Immunohistochemical Detection using TSA .....	154
Fluorescence In Situ Hybridization using TSA .....	155
Molecular Probes' TSA Detection Kits .....	155
Applying TSA Technology to Cells and Tissues .....	156
Our TSA Bibliography .....	156
Detection of Biotin-XX Tyramide, DSB-X Biotin Tyramide and Hapten-Labeled Tyramides .....	156
Double and Sequential Amplification with TSA .....	157
DAB Histochemistry Kits .....	158
Additional Tips on Using TSA Technology .....	158
Product List .....	159
<b>Section 6.3 — Enzyme-Labeled Fluorescence (ELF) Signal Amplification Technology</b> .....	<b>159</b>
Spectral Characteristics of the ELF 97 Signal .....	159
Special Applications of ELF 97 Staining in Histochemistry .....	160
Overcoming Sample Autofluorescence .....	160
Stability of ELF 97 Alcohol Staining .....	160
ELF 97 Kits for a Wide Variety of Applications .....	161
ELF 97 mRNA In Situ Hybridization Kits .....	162
ELF 97 Cytological Labeling Kit .....	163
ELF 97 Immunohistochemistry Kit .....	163
Endogenous Biotin-Blocking Kit .....	164
ELF 97 Endogenous Phosphatase Detection Kit .....	164
Reagents and Accessories for the ELF 97 Kits .....	165
ELF 39 Phosphate, ELF 97 Glucuronide and ELF 97 Glucosaminide .....	165
ELF Spin Filters .....	166
Data Table .....	166
Product List .....	166
<b>Section 6.4 — Phycobiliproteins</b> .....	<b>167</b>
Phycobiliproteins .....	167
Spectral Characteristics of Phycobiliproteins .....	167
B-Phycoerythrin, R-Phycoerythrin and Allophycocyanin .....	167
Tandem Conjugates of Phycobiliproteins .....	168
Pure Phycobiliproteins .....	170
Phycobiliprotein Conjugates .....	170
Reactive Phycobiliprotein Derivative .....	170
Phycobiliprotein-Labeled Secondary Detection Reagents .....	171
Tandem Conjugates of Phycobiliproteins .....	171

Zenon One Technology .....	172
Anti-CD3, Anti-CD4 and Anti-CD8 Antibodies .....	173
R-Phycoerythrin Anti-Fluorescein/Oregon Green Antibody .....	173
Custom Phycobiliprotein Conjugates .....	173
Product List .....	174
<b>Section 6.5 — FluoSpheres and TransFluoSpheres Fluorescent Microspheres .....</b>	<b>175</b>
Properties of Our Fluorescent Microspheres .....	175
Applications for Fluorescent Microspheres .....	176
FluoSpheres Fluorescent Microspheres .....	176
A Wide Array of Fluorescent Colors .....	176
A Wide Range of Sizes .....	177
Four Different Surface Functional Groups .....	177
Fluorescent Microspheres Conjugated to Biotin, Avidin and Streptavidin .....	179
Fluorescent Microspheres Coated with Collagen .....	179
Europium and Platinum Luminescent Microspheres for Time-Resolved Fluorometry .....	179
Fluorescent Microsphere Starter Kits .....	180
Fluorescent Microspheres for Educational Purposes .....	180
TransFluoSpheres Fluorescent Microspheres — Tools for Multicolor Detection .....	180
Advantages of TransFluoSpheres Fluorescent Microspheres .....	180
TransFluoSpheres Beads to Match Two Excitation Sources .....	182
BlockAid Blocking Solution .....	182
Our Microsphere Bibliography .....	183
Product List .....	183

