Innovative Drug Synthesis. Wiley Series on Drug Synthesis

Description: Discover the cutting-edge science driving the medicinal chemistry and synthesis of the latest drugs

Continuing the tradition of the acclaimed prior volumes on drug synthesis, Innovative Drug Synthesis illustrates how chemistry, biology, pharmacokinetics, and related disciplines come together to produce successful medicines. This book covers all aspects of the medicinal chemistry of the latest drugs, and the cutting-edge science associated with them. With authoritative coverage by distinguished editors and authors analyzing the pros and cons of different synthetic routes, the book demystifies the process of modern drug discovery for practitioners and researchers.

Other highlights include:

- Summary of respective disease area, important properties and SAR (structure-activity relationship), and chemical synthesis routes / options for each covered drug
- A step-by-step breakdown of today's drug discovery process for professionals and students
- Chapters on drugs that have achieved breakthrough therapy designation such as sofosbuvir, palbociclib and more

Innovative Drug Synthesis shows that whether drug synthesis is in early development or the process stage, the ability to design elegant and economical synthetic routes is often a major factor making a drug a commercial winner. Easy to follow and stacked with valuable information on the present and future direction of medicinal chemistry, Innovative Drug Synthesis paints a clear and complete picture of this complex subject.

Contents:

Preface xi
Contributors xiii

PART I. INFECTIOUS DISEASES 1

Chapter 1. Entecavir (Baraclude): A Carbocyclic Nucleoside for the Treatment of Chronic Hepatitis B 3

1 Background 3
2 Pharmacology 5
3 Structure Activity Relationship (SAR) 6
4 Pharmacokinetics and Drug Metabolism 7
5 Efficacy and Safety 8
6 Syntheses 8
7 References 14

Chapter 2. Telaprevir (Incivek) and Boceprevir (Victrelis): NS3/4A Inhibitors for Treatment for Hepatitis C Virus (HCV) 15

1 Background 16
2 Pharmacology 16
3 Structure Activity Relationship (SAR) 17
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Pharmacology</td>
<td>168</td>
</tr>
<tr>
<td>3</td>
<td>Discovery Program</td>
<td>169</td>
</tr>
<tr>
<td>4</td>
<td>Preclinical Profile of Palbociclib</td>
<td>175</td>
</tr>
<tr>
<td>5</td>
<td>Clinical Profile of Palbociclib</td>
<td>176</td>
</tr>
<tr>
<td>6</td>
<td>Early Process Development for Palbociclib</td>
<td>177</td>
</tr>
<tr>
<td>7</td>
<td>Commercial Process for Preparation of Palbociclib</td>
<td>192</td>
</tr>
<tr>
<td>8</td>
<td>References</td>
<td>193</td>
</tr>
<tr>
<td><strong>PART III. CARDIOVASCULAR DISEASES</strong></td>
<td><strong>197</strong></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Ticagrelor (Brilinta) and Dabigatran Etxilate (Pradaxa): P2Y12 Platelet Inhibitors as Anti–coagulants</td>
<td>199</td>
</tr>
<tr>
<td>1</td>
<td>Introduction</td>
<td>200</td>
</tr>
<tr>
<td>2</td>
<td>Dabigatran Etxilate</td>
<td>200</td>
</tr>
<tr>
<td>3</td>
<td>Ticagrelor</td>
<td>207</td>
</tr>
<tr>
<td>4</td>
<td>The Future</td>
<td>219</td>
</tr>
<tr>
<td>5</td>
<td>References</td>
<td>220</td>
</tr>
<tr>
<td><strong>PART IV. CNS DRUGS</strong></td>
<td><strong>223</strong></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Suvorexant (BELSOMRA): The First–in–Class Orexin Antagonist for Insomnia</td>
<td>225</td>
</tr>
<tr>
<td>1</td>
<td>Background</td>
<td>225</td>
</tr>
<tr>
<td>2</td>
<td>Pharmacology</td>
<td>229</td>
</tr>
<tr>
<td>3</td>
<td>Pharmacokinetics and Drug Metabolism</td>
<td>230</td>
</tr>
<tr>
<td>4</td>
<td>Efficacy and Safety</td>
<td>231</td>
</tr>
<tr>
<td>5</td>
<td>Structure Activity Relationship (SAR)</td>
<td>231</td>
</tr>
<tr>
<td>6</td>
<td>Synthesis</td>
<td>233</td>
</tr>
<tr>
<td>7</td>
<td>References</td>
<td>239</td>
</tr>
<tr>
<td>12</td>
<td>Lorcaserin (Belviq): Serotonin 2C Receptor Agonist for the Treatment of Obesity</td>
<td>243</td>
</tr>
<tr>
<td>1</td>
<td>Background</td>
<td>243</td>
</tr>
<tr>
<td>2</td>
<td>Pharmacology</td>
<td>245</td>
</tr>
<tr>
<td>3</td>
<td>Structure Activity Relationship (SAR)</td>
<td>246</td>
</tr>
<tr>
<td>4</td>
<td>Pharmacokinetics and Drug Metabolism</td>
<td>248</td>
</tr>
<tr>
<td>5</td>
<td>Efficacy and Safety</td>
<td>249</td>
</tr>
<tr>
<td>6</td>
<td>Synthesis</td>
<td>250</td>
</tr>
<tr>
<td>7</td>
<td>References</td>
<td>253</td>
</tr>
</tbody>
</table>
Chapter 13. Fingolimod (Gilenya): The First Oral Treatment for Multiple Sclerosis 255

1 Background 255
2 Structure Activity Relationship (SAR) 257
3 Pharmacology 259
4 Human Pharmacokinetics and Drug Metabolism 260
5 Efficacy and Safety 261
6 Syntheses 263
7 Summary 268
8 References 269

Chapter 14. Perampanel (Fycompa): AMPA Receptor Antagonist for the Treatment of Seizure 271

1 Background 271
2 Pharmacology 273
3 Structure Activity Relationship (SAR) 274
4 Pharmacokinetics and Drug Metabolism 276
5 Efficacy and Safety 277
6 Syntheses 278
7 References 280

PART V. ANTI–INFLAMMATORY DRUGS 283

Chapter 15. Tofacitinib (Xeljanz): The First–in–Class JAK Inhibitor for the Treatment of Rheumatoid Arthritis 285

1 Background 285
2 Structure Activity Relationships (SAR) 287
3 Safety, Pharmacology and Pharmacokinetics 289
4 Syntheses 290
5 Development of the Commercial Manufacturing Process 292
6 References 300

PART VI. MISCELLANEOUS DRUGS 303

Chapter 16. Ivacaftor (Kalydeco): A CFTR Potentiator for the Treatment of Cystic Fibrosis 305

1 Background 305
2 Pharmacology 306
3 Structure Activity Relationship (SAR) 307
4 Pharmacokinetics and Drug Metabolism 308
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: Innovative Drug Synthesis. Wiley Series on Drug Synthesis
Web Address: http://www.researchandmarkets.com/reports/3110050/
Office Code: SCDK15VK

Product Format
Please select the product format and quantity you require:

Quantity
Hard Copy (Hard Back): USD 123 + USD 29 Shipping/Handling

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title: Mr ☐ Mrs ☐ Dr ☐ Miss ☐ Ms ☐ Prof ☐
First Name: __________________________ Last Name: __________________________
Email Address: * __________________________
Job Title: __________________________
Organisation: __________________________
Address: __________________________
City: __________________________
Postal / Zip Code: __________________________
Country: __________________________
Phone Number: __________________________
Fax Number: __________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:

Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer:

Please transfer funds to:

Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: ____________________________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:
(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World