



**Prevention and Treatment
of Prostate Cancer:**
Technologies and Global Markets
March 2017

Usha Nagavarapu

Report # PHM113B

Table of Contents

Chapter 1 <i>Introduction</i>	1
Introduction	1
Study goals and objectives	1
Reasons for doing this study	1
Intended audience	1
Scope of report.....	2
Information sources	2
Methodology	2
Geographic breakdown	3
Analyst's credentials	6
Related BCC Research reports	6
Chapter 2 <i>Summary and Highlights</i>	7
Summary and highlights	8
Chapter 3 <i>Overview</i>	12
Overview	13
Introduction.....	13
U.S. Preventive Services Task Force recommendations.....	13
Biology of prostate cancer	15
Prostate gland	15
Prostate gland function	16
Growth of the prostate gland.....	16
Types of prostate cancer	17
Precancerous conditions of the prostate	17
Prostate cancer development and aging.....	17
Mechanisms of disease development pathophysiology	18
Family history	19
Environmental factors	19
Epidemiology and risk factors	19
Hormones	20
Growth factors.....	20
Genetics.....	22
Molecular mechanisms of prostate cancer	24
The Androgen Receptors.....	25
PTEN	25
p53.....	25
GSTP genes	25
Prostate-specific antigen.....	27
Caveolin-1.....	27
EMSY.....	27
AMACR.....	28
KLF6	28
NBS1	28
CHEK2	28
Mismatch repair genes.....	28
HOXB13 protein coding gene	28

BRCA1 and BRCA2	29
Hereditary prostate cancer	29
Prostate cancer prevention and treatment	30
Conclusion	32
Chapter 4 <i>Prostate Cancer information</i>	33
Prostate cancer information	34
Detection and diagnosis	34
Diagnosis.....	34
Screening, diagnosis and management of prostate cancer	35
Recommendations for prostate cancer early detection	38
Guidelines for prostate cancer screening.....	39
Prostate cancer screening guidelines: historical perspective	42
Prostate cancer screening	44
Staging and grading of prostate cancer.....	58
Diagnostic biopsy.....	60
Test for metastasis	61
New methods in development.....	62
Imaging strategies for diagnosis of prostate cancer	63
Prostate cancer prognosis and outcomes predictions	63
Conclusion	64
Chapter 5 <i>Prostate Cancer Screening and Diagnosis</i>.....	65
Prostate cancer screening and diagnosis.....	66
Prostate cancer screening, diagnosis and prognosis.....	67
Screening controversies	68
PSA tests	71
Digital rectal exam.....	78
Prostate ultrasound.....	80
Imaging technologies for prostate cancer.....	82
Conclusion	93
Chapter 6 <i>Prostate Cancer: Therapeutic Interventions</i>	94
Prostate cancer: therapeutic interventions.....	95
Treatment plan.....	95
Treatment options.....	95
Treatment strategies for prostate cancer by stage.....	97
Surgery.....	99
Secondary therapy.....	101
Radiotherapy	102
Interstitial brachytherapy for low-risk cancers	103
External beam radiotherapy.....	104
Combined radiation therapy	105
Cryotherapy.....	105
High-intensity focused ultrasound	106
Focal ablation	107
Hormone therapy	107
Androgen deprivation, an adjuvant therapy	109
Chemoprevention and chemotherapy	110
Immunotherapy/therapeutic vaccines.....	111
Vascular-targeted photodynamic therapy	112

Nutritional therapy.....	117
Erectile dysfunction.....	118
Emerging therapies	118
Conclusion	121
Chapter 7 Prostate Cancer Therapeutics in the Global Market.....	123
Prostate cancer therapeutics in the global market	124
What is cancer?	124
Drugs approved for prostate cancer	125
Drug descriptions	128
Other therapeutic agents	169
Chapter 8 Global Burden of Cancer	177
Global burden of cancer	178
Global prostate cancer statistics	182
Prostate cancer mortality.....	186
Prostate cancer burden globally	189
Prostate cancer in the United States.....	191
Prostate cancer and Canada.....	198
Prostate cancer and Europe	199
Prostate cancer in Asia	204
Other nations.....	205
Conclusion	206
Chapter 9 Prostate Cancer and Diagnostic Market.....	208
Prostate cancer and diagnostic market	209
Screening tests	209
PSA testing: yes or no controversy.....	210
Prostate cancer market size	211
Prostate cancer screening market.....	212
DRE market.....	227
Market for prostate biopsy	230
Prostate cancer diagnostic imaging market.....	244
Imaging market outlook	245
Chapter 10 Prostate Cancer Treatment Market.....	249
Prostate cancer treatment market	250
Treatment plan for prostate cancer	250
Treatment costs associated with prostate cancer	251
Prostate cancer therapies: three leading prostate cancer therapies.....	252
Prostate cancer surgery and radiotherapy market	253
Prostate cancer surgical device market	255
Radiotherapy market.....	256
Brachytherapy market.....	258
Ultrasound market	260
Prostatectomy market.....	260
Urological market	269
HIFU in the United States	271
Robotic prostatectomy market	273
Prostate cancer device market in Asia and Latin America	277
Chapter 11 Prostate Cancer Drugs Market.....	278

Prostate cancer drugs market.....	279
Global oncology therapeutics market	279
New approaches to treat prostate cancer	280
Cytotoxic therapies market	282
Prostate cancer incidence and impact on market.....	287
Current prostate cancer therapeutics	291
Generic prostate cancer drugs	294
Newer therapies on the market.....	294
Recent drug approvals and market	296
Prostate cancer: therapeutic drugs landscape.....	297
Market for chemotherapy.....	298
Market for chemotherapy drugs for prostate cancer	300
Market for hormone therapy	302
Hormone therapy drugs	305
Market for immunotherapy	313
Prostate cancer care market	317
Conclusion	323
Chapter 12 <i>Emerging Prostate Cancer Drugs</i>	325
Emerging prostate cancer drugs.....	326
Emerging products	326
Cabozantinib.....	327
Xgeva	327
Custirsen.....	327
Tasquinimod	328
Sprycel	328
TAK-700	329
Prostvac	330
Alpharadin	331
DCVax-Prostate.....	331
Not approved drugs.....	331
Avodart.....	331
Conclusion	332
Chapter 13 <i>Prostate Cancer Patents</i>	333
Prostate cancer patents.....	334
Prostate cancer drug patents expiry	335
Conclusion	337
Chapter 14 <i>Selected Company Profiles</i>	339
Selected company profiles.....	340
Abbott Laboratories	340
Active Biotech AB	340
Algeta.....	340
Amgen	341
Astellas Pharma US.....	341
AstraZeneca.....	341
Atrix Laboratories.....	342
Bavarian Nordic A/S	342
Bayer HealthCare Pharmaceuticals	343
Bristol-Myers Squibb	343

C.R. Bard	343
CZ BioMed Corp.....	344
Dendreon Corp.	344
DiagnoCure.....	345
Exelixis	345
Exosome Diagnostics.....	346
GE Healthcare.....	346
Genomic Health.....	347
GlaxoSmithKline	348
Hologic.....	348
Intuitive Surgical.....	348
Johnson & Johnson.....	349
Medivation	349
Metamark.....	350
Millennium Pharmaceuticals.....	350
Myriad Genetics	350
Northwest Biotherapeutics	351
Oncogenex.....	351
Opko Health.....	352
Pfizer.....	352
Sanofi.....	353
Siemens AG.....	353
Spectrum Pharmaceuticals.....	353
Varian Medical Systems	354
Appendix References and End Notes.....	355
References and end notes	356
References.....	356
End notes.....	358
Lists of Tables and Figures.....	359
About BCC Research.....	359
About BCC Research.....	Error! Bookmark not defined.
Conditions of purchase.....	Error! Bookmark not defined.
Report Subscriptions	Error! Bookmark not defined.
Custom Analyses	Error! Bookmark not defined.



Lists of Tables and Figures

List of Tables

TABLE 1	Summary Table: Global prostate cancer market, through 2021 (\$ millions)	10
TABLE 2	U.S. Preventive Services Task Force Recommendations, 2008	14
TABLE 3	Growth factors implicated in prostate cancer	21
TABLE 4	Proposed prostate cancer susceptibility loci	23
TABLE 5	Important genes in the development of prostate cancer	24
TABLE 6	Mutated genes and abnormal protein expression	26
TABLE 7	Why PSA testing?	35
TABLE 8	Signs and symptoms (%)	36
TABLE 9	Guideline statements	37
TABLE 10	Prostate cancer: major points	38
TABLE 11	ACS recommendations for the early detection of cancer in average-risk, asymptomatic individuals	44
TABLE 12	Prostate cancer screening	44
TABLE 13	Limitations of PSA testing	46
TABLE 14	PSA test: why and when?	48
TABLE 15	Age-specific reference ranges for serum PSA (NG/ML)	52
TABLE 16	Other causes of changes in PSA level	53
TABLE 17	Improvements to the PSA test	55
TABLE 18	Prostate cancer diagnosis and treatment strategy	66
TABLE 19	Prostate cancer tests	67
TABLE 20	Prostate cancer: local and metastatic symptoms	69
TABLE 21	Diagnostic methods	71
TABLE 22	Treatment options for prostate cancer	95
TABLE 23	Factors for prostate cancer treatment planning	96
TABLE 24	Guide to prostate cancer diagnosis and management	96
TABLE 25	Stage I prostate cancer	97
TABLE 26	Stage II prostate cancer	98
TABLE 27	Stage III prostate cancer	98
TABLE 28	Stage IV prostate cancer	99
TABLE 29	Types of surgeries	100
TABLE 30	Advantages and disadvantages of radical prostatectomy	101
TABLE 31	Advantages and disadvantages of interstitial brachytherapy	104
TABLE 32	Advantages and disadvantages of external beam radiotherapy	105
TABLE 33	Advantages and disadvantages of cryotherapy	106
TABLE 34	Advantages and disadvantages of ultrasound	106
TABLE 35	Hormone therapy	108
TABLE 36	Common cancers: global cancer cases, 2012	124
TABLE 37	Therapeutics for prostate cancer treatment	125
TABLE 38	Approved FDA prostate cancer drugs	125
TABLE 39	Common drugs for treatment of prostate cancer	127
TABLE 40	Xtandi	167
TABLE 41	Xofigo/Alpharadin	168
TABLE 42	Cabozantinib	170
TABLE 43	Therapeutic agents for prostate cancer under clinical development	171

TABLE 44	Global cancer incidence estimates, 2013 (millions).....	178
TABLE 45	Cancer in 2013	179
TABLE 46	World cancer statistics for the most common cancers, 2012	180
TABLE 47	Incidence and deaths for prostate cancer, 2013	182
TABLE 48	Prostate cancer incidence and mortality global, 2012 (thousands)	184
TABLE 49	Highest incidence of prostate cancer, by country, 2012	185
TABLE 50	Global estimated prostate cancer deaths: age-standardized mortality rates per 100,000 men, 2012	187
TABLE 51	Global estimated new cases of prostate cancer, 2008–2030	189
TABLE 52	Prostate cancer statistics, 2016	191
TABLE 53	Prostate cancer cases and deaths in the U.S., 2008–2016	192
TABLE 54	Prostate cancer statistics: new cases and deaths in the U.S., by race, 2007-2012	193
TABLE 55	Prostate cancer stage and survival rate	193
TABLE 56	Estimated prostate cancer new cases in the U.S., 2012–2030	194
TABLE 57	Incidence rates by race in the U.S., 2005–2009.....	195
TABLE 58	Estimated prostate cancer new cases in the U.S., 2020–2030	195
TABLE 59	Mortality rates by race in the U.S., 2005–2009	196
TABLE 60	Distribution and five-year relative survival by stage at diagnosis for males of all races, 2002–2008	197
TABLE 61	Relative survival rate for prostate cancer patients.....	198
TABLE 62	Five-year relative survival by stage at the time of diagnosis	198
TABLE 63	Estimated prostate cancer in Canada, 2015	199
TABLE 64	Estimated prostate cancer mortality in EU27 countries: age-standardized mortality rates per 100,000 men, 2012	200
TABLE 65	Prostate cancer deaths in the U.K.: rate per 100,000 people, 2014.....	202
TABLE 66	Estimated prostate cancer diagnosed in 2016.....	206
TABLE 67	Types of diagnostic tests.....	211
TABLE 68	Global PSA test sales and forecast, through 2021 (\$ millions)	221
TABLE 69	U.S. PSA test sales and forecast, through 2021 (\$ millions)	223
TABLE 70	European PSA test sales and forecast, through 2021 (\$ millions)	224
TABLE 71	Canadian PSA test sales and forecast, through 2021 (\$ millions).....	225
TABLE 72	Emerging markets PSA test sales and forecast, through 2021 (\$ millions)	226
TABLE 73	Global digital rectal examination sales and forecast, through 2021 (\$ millions)	227
TABLE 74	U.S. digital rectal examination sales and forecast, through 2021 (\$ millions)	228
TABLE 75	ROW digital rectal examination sales and forecast (excluding the U.S.), through 2021 (\$ millions)	229
TABLE 76	Global estimated cost and forecast of prostate biopsies, through 2021 (\$ millions).....	231
TABLE 77	U.S. estimated cost and forecast of prostate biopsies, through 2021 (\$ millions).....	232
TABLE 78	ROW estimated cost and forecast of prostate biopsies (excluding the U.S.), through 2021 (\$ millions)	233
TABLE 79	Global estimated cost and forecast for prostate biopsies, by region, through 2021 (\$ millions)	234
TABLE 80	Global prostate cancer screening sales and forecast, through 2021 (\$ millions).....	235
TABLE 81	Manufacturers/suppliers of prostate cancer diagnostics market, 2016 (\$ millions).....	236
TABLE 82	Newer tests and characteristics.....	238
TABLE 83	List of available prostate nomograms.....	241
TABLE 84	Global market for prostate cancer imaging technologies: sales and forecast, through 2021 (\$ millions)	246

TABLE 85	Prostate cancer therapeutic options when local therapy fails	251
TABLE 86	Cost of the three leading prostate cancer therapies, 2012	253
TABLE 87	Key players of surgical device and radiotherapy companies	253
TABLE 88	Global prostate cancer surgery and radiotherapy market sales and forecast, through 2021 (\$ millions)	254
TABLE 89	Global market for external beam radiation therapy sales and forecast, through 2021 (\$ millions)	257
TABLE 90	Global brachytherapy market sales and forecast, through 2021 (\$ millions).....	259
TABLE 91	Global estimated incidence of prostate cancer, 2008–2030 (thousands).....	261
TABLE 92	Global estimated cases of prostate surgeries performed per year, 2011–2021 (thousands).	262
TABLE 93	Global market for prostate surgeries sales and forecast, through 2021 (\$ millions)	263
TABLE 94	Global cases of estimated robotic prostatectomies performed per year, 2011–2021 (thousands).....	264
TABLE 95	Global market for robotic prostatectomy sales and forecast, through 2021 (\$ millions)	266
TABLE 96	Global market for estimated open prostatectomy surgeries per year, 2011–2021 (thousands)	267
TABLE 97	Global market for open prostatectomy sales and forecast, through 2021 (\$ millions)	268
TABLE 98	U.S. urological device market sales and forecast, through 2016 (\$ billions)	269
TABLE 99	U.S. brachytherapy market sales and forecast, through 2021 (\$ millions)	270
TABLE 100	Prostate cancer incidence in the U.S., 2008–2016 (thousands).....	272
TABLE 101	U.S. total estimated prostatectomy cases, 2011–2021 (thousands).....	273
TABLE 102	U.S. robotic prostatectomy market sales and forecast, through 2021 (\$ millions).....	274
TABLE 103	U.S. prostatectomy surgeries sales and forecast, through 2021 (\$ millions)	275
TABLE 104	U.S. open prostatectomy market sales and forecast, through 2021 (\$ millions)	276
TABLE 105	Global cancer therapeutic market, through 2021 (\$ millions)	279
TABLE 106	Oncology pipeline, 2016	281
TABLE 107	Global cytotherapeutics market, 2010 and 2016 (\$ millions)	282
TABLE 108	Cytotoxic therapies market indications	282
TABLE 109	Expiry of patents on major cytotoxic drugs	283
TABLE 110	U.S. cytotherapeutics market, through 2016 (\$ millions).....	284
TABLE 111	European cytotherapeutics market, through 2016 (\$ millions).....	285
TABLE 112	Japanese cytotherapeutics market, through 2016 (\$ millions)	286
TABLE 113	Major cytotoxic brands sales, 2016 (\$ millions)	287
TABLE 114	Drug products and treatment market for prostate cancer, through 2021 (\$ millions).....	288
TABLE 115	Current prostate cancer therapies and costs	290
TABLE 116	Prostate cancer drug market, through 2021 (\$ millions).....	291
TABLE 117	Prostate cancer drug products, by treatment category, through 2021 (\$ millions).....	293
TABLE 118	U.S. prostate cancer market: patients and treatment strategies	295
TABLE 119	New drugs and sales forecast, 2015 and 2021 (\$ millions)	297
TABLE 120	Global sales and forecast: key prostate cancer drugs, 2010–2016 (\$ millions)	298
TABLE 121	Global prostate cancer chemotherapy drugs	298
TABLE 122	Global chemotherapy market for prostate cancer sales and forecast, through 2021 (\$ millions)	299
TABLE 123	Key chemotherapeutic drugs for prostate cancer sales and forecast, 2010–2016 (\$ millions)	301
TABLE 124	Global prostate cancer hormonal therapy drugs.....	303
TABLE 125	Hormone therapy for prostate cancer sales and forecast, through 2021 (\$ millions)	303
TABLE 126	Generics sales and forecast, through 2021 (\$ millions).....	305

TABLE 127	Casodex sales and forecast, through 2021 (\$ millions)	305
TABLE 128	Zytiga sales estimates, 2012 and 2015 (\$ millions)	307
TABLE 129	Global sales and forecast for Zytiga, through 2021 (\$ millions)	308
TABLE 130	Global market sales and forecast for Xtandi, through 2021 (\$ millions)	309
TABLE 131	Global market for Flutamide, 2009–2010 (\$ millions)	310
TABLE 132	Global market for Triptorelin, 2009–2010 (\$ millions)	310
TABLE 133	Global market for Lupron, through 2021 (\$ millions)	311
TABLE 134	Global market for Zoladex sales and forecast, through 2021 (\$ millions)	312
TABLE 135	Global prostate cancer immunotherapy drug sales and forecast, through 2021 (\$ millions)	313
TABLE 136	Provenge annual sales and forecast, 2010–2016 (\$ millions)	315
TABLE 137	Global market for prostate cancer care, by region, through 2021 (\$ millions)	318
TABLE 138	European prostate cancer care market, through 2021 (\$ millions)	319
TABLE 139	U.S. prostate cancer care market, through 2021 (\$ millions)	320
TABLE 140	Canadian prostate cancer care market, through 2021 (\$ millions)	322
TABLE 141	Global prostate cancer market sales and forecast, through 2021 (\$ millions)	323
TABLE 142	Emerging products for prostate cancer	326
TABLE 143	Prostate cancer patent trends, 2002–2011	334
TABLE 144	Patents by treatment category, 2002–2011	335
TABLE 145	Expiry of patents on major brands	336
TABLE 146	List of key Dendreon patents and patent applications	337

List of Figures

FIGURE 1	Summary Figure: Global prostate cancer market, 2012-2021 (\$ millions)	10
FIGURE 2	Chemical structure of Casodex	129
FIGURE 3	Chemical structure of Zoladex	132
FIGURE 4	Chemical structure of Eligard	136
FIGURE 5	Chemical structure of Nilandron	139
FIGURE 6	Chemical structure of Flutamide	141
FIGURE 7	Chemical structure of Trelstar	145
FIGURE 8	Chemical structure of Estramustine	149
FIGURE 9	Chemical structure of Firmagon	150
FIGURE 10	Chemical structure of Docetaxel	153
FIGURE 11	Chemical structure of Jevtana	157
FIGURE 12	Chemical structure of Zytiga	162
FIGURE 13	Chemical structure of Xtandi	166
FIGURE 14	Global cancer incidence estimates, 2013 (millions)	179
FIGURE 15	Prostate cancer incidence and mortality global, 2012 (thousands)	185
FIGURE 16	Global estimated prostate cancer deaths: age-standardized mortality rates per 100,000 men, 2012	188
FIGURE 17	Global estimated new cases of prostate cancer, 2008–2030	190
FIGURE 18	Prostate cancer cases and deaths in the U.S., 2008–2016	192
FIGURE 19	Estimated prostate cancer new cases in the U.S., 2012–2030	194
FIGURE 20	Estimated prostate cancer new cases in the U.S., 2020–2030	196
FIGURE 21	Estimated prostate cancer mortality in EU27 countries: age-standardized mortality rates per 100,000 men, 2012	201
FIGURE 22	Prostate cancer deaths in the U.K.: rate per 100,000 people, 2014	203
FIGURE 23	Global PSA test sales and forecast, 2010-2021 (\$ millions)	222
FIGURE 24	U.S. PSA test sales and forecast, 2011-2021 (\$ millions)	223
FIGURE 25	European PSA test sales and forecast, 2011-2021 (\$ millions)	224
FIGURE 26	Canadian PSA test sales and forecast, 2011-2021 (\$ millions)	225
FIGURE 27	Emerging markets PSA test sales and forecast, 2010-2021 (\$ millions)	226
FIGURE 28	Global digital rectal examination sales and forecast, 2012-2021 (\$ millions)	228
FIGURE 29	U.S. digital rectal examination sales and forecast, 2016 and 2021 (\$ millions)	229
FIGURE 30	ROW digital rectal examination sales and forecast (excluding the U.S.), 2012-2021 (\$ millions)	230
FIGURE 31	Global estimated cost and forecast of prostate biopsies, 2012-2021 (\$ millions)	231
FIGURE 32	U.S. estimated cost and forecast of prostate biopsies, 2012-2021 (\$ millions)	232
FIGURE 33	ROW estimated cost and forecast of prostate biopsies (excluding the U.S.), 2012-2021 (\$ millions)	233
FIGURE 34	Global estimated cost and forecast for prostate biopsies, by region, 2012-2021 (\$ millions)	234
FIGURE 35	Global prostate cancer screening sales and forecast, 2012-2021 (\$ millions)	235
FIGURE 36	Global market for prostate cancer imaging technologies: sales and forecast, 2012-2021 (\$ millions)	247
FIGURE 37	Global prostate cancer surgery and radiotherapy market sales and forecast, 2012-2021 (\$ millions)	255

FIGURE 38	Global market for external beam radiation therapy sales and forecast, 2012-2021 (\$ millions)	257
FIGURE 39	Global brachytherapy market sales and forecast, 2012-2021 (\$ millions)	259
FIGURE 40	Global estimated incidence of prostate cancer, 2008–2030 (thousands).....	261
FIGURE 41	Global estimated cases of prostate surgeries performed per year, 2011-2021 (thousands)	263
FIGURE 42	Global market for prostate surgeries sales and forecast, 2012-2021 (\$ millions).....	264
FIGURE 43	Global cases of estimated robotic prostatectomies performed per year, 2011–2021 (thousands).....	265
FIGURE 44	Global market for robotic prostatectomy sales and forecast, 2012-2021 (\$ millions).....	266
FIGURE 45	Global market for estimated open prostatectomy surgeries per year, 2011–2021 (thousands).....	267
FIGURE 46	Global market for open prostatectomy sales and forecast, 2012-2021 (\$ millions)	268
FIGURE 47	U.S. brachytherapy market sales and forecast, 2012-2021 (\$ millions)	270
FIGURE 48	Prostate cancer incidence in the U.S., 2008–2016 (thousands)	272
FIGURE 49	U.S. robotic prostatectomy market sales and forecast, 2011-2021 (\$ millions)	274
FIGURE 50	U.S. prostatectomy surgeries sales and forecast, 2012-2021 (\$ millions).....	275
FIGURE 51	U.S. open prostatectomy market sales and forecast, 2012-2021 (\$ millions).....	276
FIGURE 52	Global cancer therapeutic market, 2016 and 2021 (\$ millions)	280
FIGURE 53	U.S. cytotherapeutics market, 2010-2016 (\$ millions)	284
FIGURE 54	European cytotherapeutics market, 2010-2016 (\$ millions)	285
FIGURE 55	Japanese cytotherapeutics market, 2010-2016 (\$ millions).....	286
FIGURE 56	Drug products and treatment market for prostate cancer, 2012-2021 (\$ millions)	289
FIGURE 57	Prostate cancer drug market, 2012-2021 (\$ millions)	292
FIGURE 58	Prostate cancer drug products, by treatment category, 2012-2021 (\$ millions)	293
FIGURE 59	Global chemotherapy market for prostate cancer sales and forecast, 2010-2021 (\$ millions)	299
FIGURE 60	Hormone therapy for prostate cancer sales and forecast, through 2021 (\$ millions)	304
FIGURE 61	Casodex sales and forecast, 2011-2021 (\$ millions).....	306
FIGURE 62	Zytiga sales estimates, 2012 and 2015 (\$ millions)	307
FIGURE 63	Global sales and forecast for Zytiga, 2011-2021 (\$ millions).....	308
FIGURE 64	Global market for Zoladex sales and forecast, 2009-2021 (\$ millions)	312
FIGURE 65	Global prostate cancer immunotherapy drug sales and forecast, 2010-2021 (\$ millions) ..	314
FIGURE 66	Provenge annual sales and forecast, 2010–2016 (\$ millions).....	316
FIGURE 67	Global market for prostate cancer care, by region, 2012-2021 (\$ millions).....	319
FIGURE 68	European prostate cancer care market, 2012-2021 (\$ millions)	320
FIGURE 69	U.S. prostate cancer care market, 2012-2021 (\$ millions)	321
FIGURE 70	Canadian prostate cancer care market, 2012-2021 (\$ millions).....	322
FIGURE 71	Global prostate cancer market sales and forecast, through 2021 (\$ millions).....	324



About BCC Research

About BCC Research

With our unparalleled 45-year history, BCC Research provides comprehensive analysis of global market sizing, forecasting and industry intelligence, covering markets where advances in science and technology are improving the quality, standard and sustainability of businesses, economies and lives.

BCC Library Access

From market sizing and forecasts, to opportunity assessments and competitive analyses, our ever-expanding library gives you the data, insights and intelligence required to ensure your project is a success. With myriad options for access to fit all needs and budgets, call 866-285- 7215 or email info@bccresearch.com to request a demo.

BCC Custom Research

Our experts provide custom research projects to those working to identify new markets, introduce new products, validate existing market share, analyze competition and assess the potential for products to impact existing markets. With impressive academic credentials and broad and deep knowledge of global industrial markets, our independent analysts and consultants develop the facts, figures, analysis and assessments to inform the decisions that will move your company ahead. Confidential inquiries to: custom@bccresearch.com or 781- 205-2429.

ISBN: 1-62296-454-3
March 2017