

# Alzheimer's Disease (AD) Report

---

Date: 01 June 2010

"Copyright 2010 CBDMT SARL. All rights reserved. Any unauthorized use or disclosure is prohibited. The information herein was obtained from various sources; we do not guarantee its accuracy or completeness. This research report is prepared for general circulation and is circulated for general information only. It does not have regard to specific investment objectives, financial situation and the particular needs of any particular person who may receive this report. Investors should seek financial advice regarding the appropriateness of investing in any securities or investment and trading strategies discussed or recommended in this report and should understand that the statements regarding future prospects may not be realized. Investors should note that income from such securities, if any, may fluctuate and that each security's price or value may rise or fall. Accordingly, investors may receive back less than originally invested. Past performance is not necessarily a guide to future performance. Neither the information nor any opinion expressed constitutes an offer to buy or sell any securities or options or futures contracts. CBDMT SARL accepts no responsibility or liability whatsoever for any expense, loss or damages arising out of or in any way connected with the use of all or any part of this report. CBDMT SARL does not have long or short position in any securities or options of this issue(s)."



# Table of Contents

---

1	Global information .....	5
1.1	History .....	5
1.2	Presentation of the disease.....	5
1.3	Patients with Alzheimer’s disease forecast.....	5
1.4	Prevalence .....	7
2	Alzheimer’s disease .....	7
2.1	Symptoms.....	7
2.2	Physiopathology .....	9
2.3	Risk factors .....	12
	Age.....	12
	Sex .....	12
	Genetic affects.....	12
2.4	Alzheimer’s disease as a genetic disease .....	13
2.5	Diagnosis.....	13
3	Market .....	15
3.1	Overview.....	15
3.2	Treatments and products .....	16
	Acetylcholinesterase inhibitors .....	21
	NMDA receptor antagonist .....	23
3.3	Market previsions.....	23
4	Products in development .....	25
4.1	Overview.....	25
4.2	Products in phase III .....	26
	Bapineuzumab.....	28
	Dimebon .....	30
	EGb-761 .....	35
	Immune Globulin Intravenous.....	36
	Leuprolide acetate implant .....	37



LY-450139.....	38
Neramexane .....	39
4.3 Products in phase II .....	40
5 Pipeline of drugs for Alzheimer’s disease, Discovery to Phase II .....	42
5.1 Drugs in phase II .....	42
5.2 Drugs in phase I .....	45
5.3 Drugs in preclinical phase.....	48
5.4 Drugs in discovery phase.....	50
6 Company profiles .....	55
6.1 Baxter International Inc.....	55
6.2 Bellus Health Inc.....	57
6.3 Eisai Co Ltd.....	58
6.4 Elan Corp Plc.....	59
6.5 Eli Lilly and Co.....	61
6.6 Forest laboratories Inc.....	63
6.7 Johnson & Johnson.....	64
6.8 Merz pharmaceutical.....	66
6.9 Novartis Ag .....	67
6.10 Pfizer Inc .....	69

## List of Figures

---

Figure 1: Estimated evolution of people with Alzheimer’s disease 2010 to 2050 (in millions) by geographical zones.....	6
Figure 2: Progression of Alzheimer's disease (black dots) .....	9
Figure 3: Diagram of physiopathology mechanisms .....	11
Figure 4: Sales repartition by types of drugs.....	15
Figure 5: Sales repartition by geographical zones.....	15
Figure 6: Sales repartition by pharmaceutical companies .....	16
Figure 7: Therapeutic ways to treat Alzheimer's disease.....	17
Figure 8: Sales of marketed drugs by therapeutic classes .....	19
Figure 9: Sales distribution of Aricept in 2009 .....	22
Figure 10: Estimated evolution of sales for Alzheimer's disease drugs for 2009 to 2020 .....	23
Figure 11: Repartition of Alzheimer's drugs turnover for 2009 to 2020 .....	24

Figure 12: Pipeline drugs in development in 2010..... 25  
 Figure 13: Clinical trials by development phases ..... 26  
 Figure 14: Drugs in phase III by therapeutic classes..... 26  
 Figure 15: Drugs in phase II by therapeutic classes..... 40  
 Figure 16: Repartition of symptomatic treatments by mechanisms of action ..... 41  
 Figure 17: Repartition of curative treatments by mechanisms of action ..... 41

## List of Tables

---

Table 1: Total population over 65, estimated number of people with Alzheimer’s disease from 2010 to 2020 (in millions) by geographical zones ..... 6  
 Table 2: Incidence and prevalence on population aged 65 and over in 2010, 2015 and 2020 by geographical zones ..... 7  
 Table 3: Main warning signs of Alzheimer's disease ..... 7  
 Table 4: Common clinical features in Alzheimer’s disease ..... 8  
 Table 5: Potential risks and protective factors for Alzheimer’s disease ..... 12  
 Table 6: Differences between genetic disease and genetic susceptibility..... 13  
 Table 7: Main brand-name drugs sold in the world ..... 18  
 Table 8: Alzheimer's degree of severity treated by marketed drugs ..... 19  
 Table 9: Current drug treatments for Alzheimer's disease ..... 20  
 Table 10: Sales and forecast of main acetylcholinesterase inhibitor drugs ..... 21  
 Table 11: Sales and forecast of main NMDA receptor antagonist drugs ..... 23  
 Table 12: Drugs in phase III ..... 26  
 Table 13: Alzheimer's degree of severity treated by drugs in phase III ..... 27  
 Table 14: Clinical trials of Bapineuzumab ..... 29  
 Table 15: Clinical trials of Dimebon ..... 32  
 Table 16: Clinical trials of EGb-761 ..... 35  
 Table 17: Clinical trials of Gammagard (Immune Globulin Intravenous) ..... 36  
 Table 18: Clinical trials of Memryte (leuprolide acetate implant) ..... 37  
 Table 19: Clinical trials of LY-450139..... 38  
 Table 20: Clinical trials of Neramexane ..... 40