

# Stratanalysis Document

## *AZ's Brilinta Reports Favorable Trial III Results*

Stratanalysis  
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# AZ's Brilinta Reports Favorable Trial III Results

## Brilinta Beats Plavix in Efficacy and Reversible Action

### Brilinta Shows Better Efficacy Than Plavix Without Major Bleed Risk

- On 30<sup>th</sup> August, 2009, AstraZeneca announced results from the Phase III head to head trial, PLATO<sup>1</sup> which showed that ticagrelor (Brilinta) has achieved greater efficacy based on the primary endpoint, reduction of cardiovascular events (CV death, MI, stroke) over clopidogrel (Plavix/Iscover)
  - Patients with acute coronary syndrome (ACS) who took Brilinta were 16% less likely than those on Plavix to die from cardiovascular causes or suffer a heart attack or stroke
- Ticagrelor is an investigational oral antiplatelet treatment for ACS and is the first reversibly binding oral adenosine diphosphate (ADP) receptor antagonist
  - AstraZeneca believes this medicine has an edge in part because its action can be reversed, meaning that heart patients who take Brilinta can be prepared for any necessary surgery much quicker, without excessive bleeding risk

### Antithrombotic Market Players

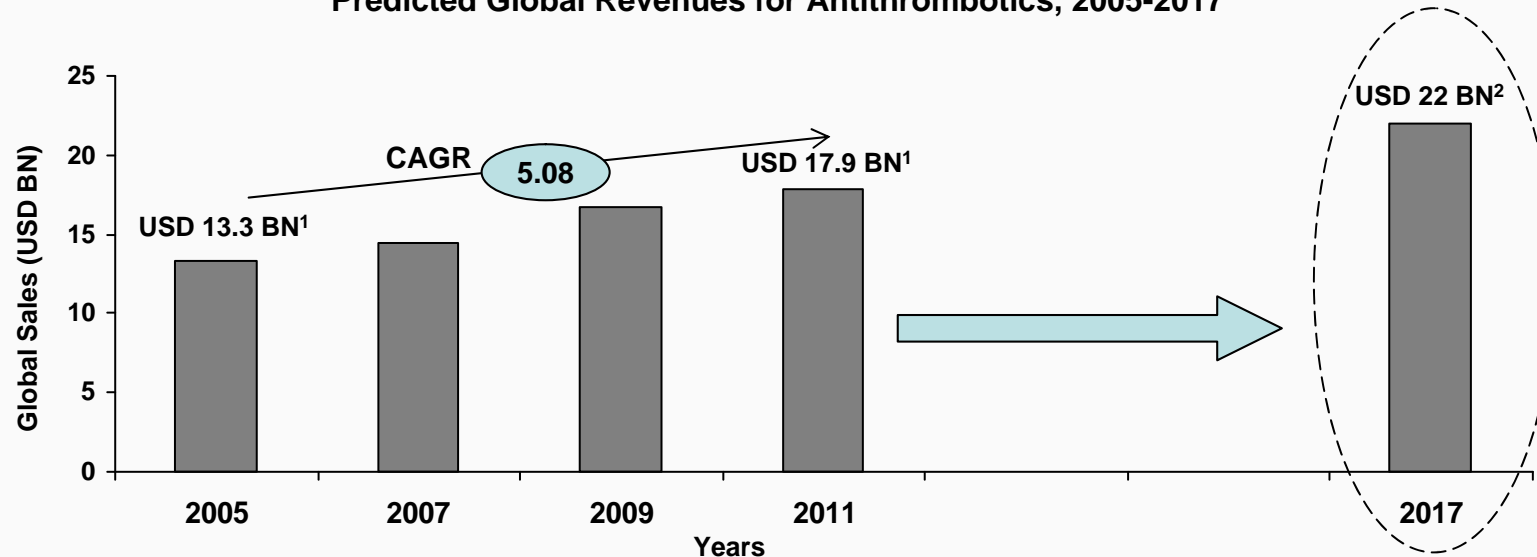
- The global antithrombotic<sup>2</sup> market is expected to grow to USD 22 BN by 2017 and has demonstrated a steady growth with CAGR of 8% over the 2004-07 period
- The major player in the anti-coagulant market is Plavix, sold by Sanofi-Aventis and Bristol-Myers Squibb, which sold approximately USD 9 BN last year
  - Eli Lilly and Daiichi Sankyo's recently launched Effient (prasugrel) has also outperformed Plavix in tests, however it is hampered by a strict warning on bleeding risks
  - Another competitor is Coumadin (warfarin) manufactured and sold by Bristol-Myers Squibb, which is already available in generic form

Note: <sup>1</sup>A Study of Platelet Inhibition and Patient Outcomes; <sup>2</sup>Thrombolytics, anticoagulants and anti-platelet drugs  
Source: Reuters News, Business Week, Wall Street Journal, Datamonitor Research

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## Global Antithrombotics Market

Predicted Global Revenues for Antithrombotics, 2005-2017



### ➤ Global Market:

- The global antithrombotic market sales is predicted to reach USD 22 billion by 2017
  - The growth is expected to be triggered by the introduction of new agents into the market, such as prasugrel, which would offer significant improvements over the current standards of care (clopidogrel and warfarin)
- The US antithrombotic market as a percent of the global market is predicted to decrease from 55% in 2007 to 49% by 2017, due to patent expiries in the EU not affecting brand sales to the same extent as in the US
- Sales revenue from the forthcoming launches of innovative novel agents in this market is expected to dampen the commercial impact from generic erosion of the current blockbuster brands

Note: <sup>1</sup>As predicted in 2005; <sup>2</sup> As predicted in 2008

Source: Datamonitor Research

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## Brilinta Vs Plavix – PLATO and DISPERSE trials (1/2)

End Points	Brilinta	Plavix	Comments
Death from vascular causes, MI or stroke	9.8% 📈	11.7%	Brilinta shows 16.2% improvement over Plavix in death from vascular causes, MI or stroke
Death from any cause	4.5% 📈	5.9%	Brilinta shows 23.7% improvement over Plavix in preventing death from any cause
Myocardial Infarction	5.8% 📈	6.9%	Brilinta shows 15.9% improvement over Plavix in occurrence of myocardial infarction
Stroke	1.5% 📉	1.3%	Plavix is 13.3% more effective than Brilinta in prevention of stroke




End Points	Brilinta	Plavix
Dosage	Twice a day oral dosage 📉	One-daily oral dosage
Onset of Action	Does not require metabolic conversion making action faster 📈	Requires hepatic conversion, leading to delay in onset of action
Reversibility of Action	Reversible effect suitable for chronic use in patients with acute coronary syndromes (ACS) 📈	Its active metabolite binds irreversibly to P2Y12 receptors such that recovery of platelet function is precluded

- Over 12 months, patients taking ticagrelor had fewer heart attacks and strokes compared with patients taking clopidogrel (9.8% versus 11.7%). Moreover, fewer patients taking ticagrelor died compared with patients taking clopidogrel (4.5 % versus 5.9%)
- Due to easy reversibility, **heart patients who take Brilinta can be prepared for any necessary surgery much sooner**, without excessive bleeding risk as compared to Plavix
- However, Brilinta has a twice daily dosage compared to Plavix

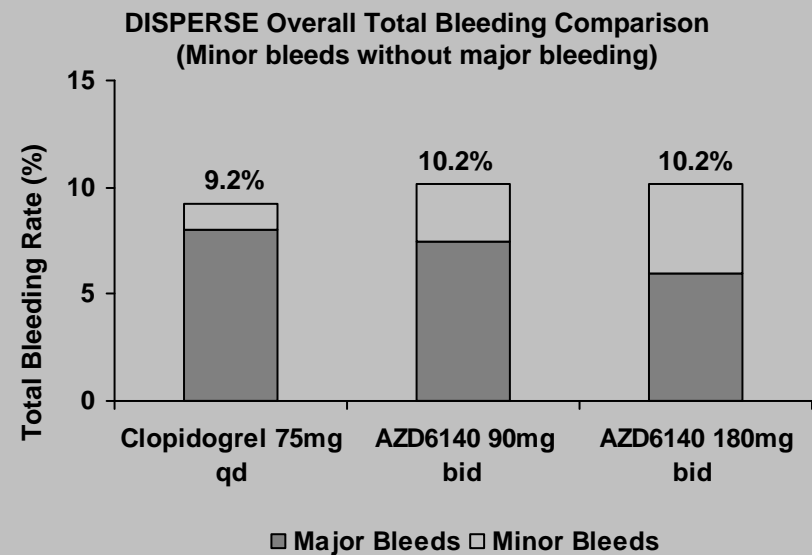
Source: NEJM, Business Week, European Society of Cardiology

# AZ's Brilinta Reports Favorable Trial III Results

## Brilinta Vs Plavix – PLATO and DISPERSE trials (2/2)

End Points	Brilinta	Plavix	Comments
Major Bleeding	4.5% 	3.8%	Patients taking Brilinta are 15.5% more likely to have spontaneous intracranial and gastrointestinal bleeding than people taking Plavix
Dyspnea	13.8% 	7.8%	Brilinta shows higher occurrences of Dyspnea (44.4%) compared to Plavix amongst patients
Shortness of Breath	14.2% 	9.2%	Shortness of breath is more common in patients taking Brilinta (35.2%) compared with patients taking Plavix

- Patients taking Brilinta are more likely to have spontaneous intracranial and gastrointestinal bleeding than people taking Plavix
- A segment of patients with asthmatic co-morbidity or any other respiratory disease might not be able to take Brilinta, as **shortness of breath is more common in patients taking Brilinta compared with patients taking Plavix**
  - There was also an excess of ventricular pauses in patients treated with ticagrelor as compared to clopidogrel



# AZ's Brilinta Reports Favorable Trial III Results

## Stratanalysis Viewpoints and Analysis

### Advantage AZ

- AZ expects Brilinta peak sales to be about USD 2.2 Bn by 2014
  - This would imply earnings of about USD 850 MM for the company

### Disadvantage Eli Lilly and Daiichi Sankyo's

- Eli Lilly and Daiichi Sankyo had previously cut their sales projections for Effient to half of the original USD 1.5 Bn
  - With a new high-performing blood thinner (minus the bleeding warning on the label) slated for launch one year after the launch of Effient, it is possible that the sales projections will be cut down to a much smaller figure

### Disadvantage Sanofi-Aventis and Bristol-Myers Squibb's

- Brilinta might be able to make a dent on Plavix sales in case it is launched before the latter goes off-patent in 2011
  - Plavix sales were approx. USD 9 Bn last year and this will only be challenged by Effient with an excessive bleeding warning label next year

### Plavix Generic Manufacturers

- Brilinta launch before Plavix going off-patent might mean that generic Plavix manufacturers acquire a smaller market share
  - Scenario I (Brilinta launches >3 months before Plavix goes off patent): A good chunk of Plavix patients will move to the more efficacious Brilinta. Once Plavix goes off patent, some of them might return to the then low cost generic Plavix. However, patients who experience better results with Brilinta will stick to the new drug
  - Scenario II (Brilinta launches after Plavix goes off patent): Brilinta will have to pick up patients on low cost Plavix. This might prove to be difficult because of the huge cost differential

Website: [www.stratanalysis.com](http://www.stratanalysis.com)

Phone:  
+44 7950 324483

EMAIL:  
[hari@stratanalysis.com](mailto:hari@stratanalysis.com)

SKYPE ID: harithrividramji

**Thank You**

