This 3DAdvisors Report Covers:	
✓	**Insider Trading**: Insider Trading Behavior
	Accounting: Quality of Earnings Issues
	Governance: Corporate Governance Issues
✓	**Fundamentals:** Analysis of fundamentals

Trading Behavior and Fundamentals Say Deal Unlikely Biogen Idec Inc. (NASDAQ:BIIB)

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Business Description

Biogen Idec Inc. engages in the development, manufacture, and commercialization of novel therapies primarily in the areas of oncology, neurology, and immunology in the United States and internationally. The Company's current portfolio is comprised of five drugs: AVONEX, TYSABRI, RITUXAN, ZEVALIN, and FUMADERM. The Company also has numerous drugs in various stages of development, and has collaboration agreements with PDL BioPharma, Inc., Sunesis Pharmaceuticals, Inc., Vernalis plc, Vetter Pharma-Fertigung GmbH & Co. KG, Elan Corporation plc, Alnylam Pharmaceuticals, Inc., UCB SA, Johns Hopkins Brain Science Institute, and Schering AG. The Company was founded in 1985 and is based in Cambridge, Massachusetts.

Key Statistics

Sector:	Last Close:	Market Cap:	Avg Vol (3m):
Healthcare	**$72.87**	**$21.38B**	**4,803,420**
Industry:	**52 Wk Range:**	**Trailing P/E:**	**Shrs Out:**
Biotechnology	**$42.86-$84.76**	**44.24**	**293.37M**
F/T Employees:	**FYE:**	**Forward P/E:**	**Short % of Float:**
3,750	**31-Dec**	**22.63**	**3.30%**

Summary of 3DAdvisors Findings for BIIB

- **Insider Trading:** If the SEC is looking for abusive 10b5-1 trading, look no further
- **Insider Trading:** Selling behavior suggests deal at any premium is unlikely
- **Fundamentals:** Litigation could diminish value of RITUXAN to any acquirer
- **Fundamentals:** Sales of largest revenue producing drug are flattening
- **Fundamentals:** Doubts persist whether TYSABRI forecasts will be met
- **Fundamentals:** More drug portfolio questions with TYSABRI if BIIB is sold

Discussion of 3DAdvisors Findings for BIIB

In our years (over 25 now) of analyzing insider behavior, we can't recall behavior as self-serving and egregious as that exhibited by insiders at Biogen Idec (BIIB) thus far this year. Indeed, for the first time in 3DA history we are going on record to say to clients that the exploitation of 10b5-1 trading plans by BIIB insiders is the kind of stuff that should, if it has not already, get the attention of regulators who have recently been looking into such abuses. Strong comments, we know, and it took some time and patience before deciding to use them. The consistency of the actions of BIIB executives, however, who continue to sell under the cover of their trading plans after virtually every rally in the stock this year, and with most of those rallies caused by management-made announcements, pushes us to place such an exclamation point on the behavior.

Clearly, our clients are well-aware of the many developments that have occurred this year which have caused successive rallies in BIIB shares: The May 30th Dutch Auction announcement was followed by the July 24th Q2 earnings surprise which was subsequently followed by the news that **Carl Icahn** had received approval to increase his position in the Company. Then, on September 6th, BIIB management increased guidance three weeks prior to really stirring the pot with the voluntary October 12th announcement that it was going to shop the Company. What our clients may not be aware of, however, is the fact that after every one of the above announcements, BIIB insiders surfaced to sell heavily into each event-driven rally. Those looking for Biogen to pull off a deal or, more importantly, those who doubt the veracity of such an agenda, should pay close attention to the fact that these Biogen insiders are acting in a way that is wholly inconsistent with what they are saying. We would also add that there are a number of fundamental issues, many of which are well known, that lessen the likelihood of a deal getting done.

Insider Trading: If the SEC is looking for abusive 10b5-1 trading, look no further

While the trading under many 10b5-1 plans is clearly innocuous, there are some obvious instances where insiders are using them to clear out large chunks of their holdings while in possession of material, non-public information. We have been analyzing this behavior now for a number of years and have developed a systematic way of identifying situations that we feel are abusive (see 3DA Special Report: Analysis of Abusive 10b5-1 Trading Plan Behavior). Not surprisingly, the SEC is looking into this issue as well. Earlier this year, in a March 8th Corporate Counsel Institute conference, **Linda Chatman Thomsen**, Director of the SEC's Division of Enforcement, expressed her concern with the issue of 10b5 abuse with the following comments during the conference:

> And that includes buying into the big picture—no line-drawing, edge-skating, pretzel-twisting or distinction-making among shades of grey. On that topic, let me share a current example. In 2000, the SEC enacted Rule 10b5-1 in order to clarify the law about when executives who may come into possession of inside information can legally trade. Rule 10b5-1 allows corporate executives to make a plan, at a time when they are not in possession of inside information, to make prearranged trades at specified prices or dates in the future. The idea was to give executives "a safe harbor"

to proceed with these prearranged trades without facing charges of insider trading. The Rule was intended to give executives regular opportunities to liquidate their stock holdings—to pay their kids' college tuition, for example—without risk of inadvertently facing an insider trading inquiry. However, recent academic studies suggest that the Rule is being abused. The academic data show that executives who trade within a 10b5-1 plan outperform their peers who trade outside of such a plan by nearly 6%; it ought to be the case that plan participants should be no more successful on average than those who trade outside a plan. The difference seems to be that executives with plans sell more frequently and more strategically ahead of announcements of bad news. This raises the possibility that plans are being abused in various ways to facilitate trading based on inside information. We're looking at this—hard. We want to make sure that people are not doing here what they were doing with stock options. If executives are in fact trading on inside information and using a plan for cover, they should expect the "safe harbor" to provide no defense.

The actions of Biogen insiders this year should serve as a poster-child for what the Commission should be looking at. After Biogen's May 30th announcement of its $3 billion Dutch Tender Offer and into the subsequent rally, insiders doubled their sales over the volume that occurred between January and May. It only started there, however, as subsequent to late May, Biogen management had four occasions to sell into rallies, three of which were created by their own bullish disclosures. On each occasion, key insiders sold within two days of the rally. Each of the key announcements, subsequent rallies and then trading by insiders under 10b5-1 plans is summarized in the table below:

Date	Event	Stock Price Change	# Sellers Within 2 Days	Shares Sold Within 2 Days	Volume Over Next 2 Weeks
5/30/07	$3 billion share repurchase announced	6%	3	28,369	0
7/24/07	Q2 earnings surprise	5%	5	224,007	0
8/24/07	Icahn receives approval to increase position	5%	5	61,256	122,864
9/6/07	Long-term guidance (bullish) provided for first time	6%	1	66,639	0
10/12/07	Company announces it is seeking buyer	19%	6	350,995	0

The SEC's interest/concern over 10b5-1 abuse continued to manifest itself in a National Association of Stock Plan Professional (NASPP) conference earlier this month when Ms. Thomsen reiterated the Commission's resolve to stay on the issue, declining to reveal whether specific companies were being targeted. She did note, however, that the 10b5-1 probe comes on the heels of enforcement actions against GE and Tyson Foods for failing to disclose executive perks and stock-option backdating.

With regards to Biogen insider 10b5-1 sales this year, 65% of them came within two days of bullish news announcements mentioned above. In total, 75% of the 1.14 million shares sold came within two weeks of the same announcements. We have not found 10b5-1 trade timing with stronger correlation to news related rallies since the inception of the rule in 2000. Given this, the notion that these 10b5-1 trades are simply routine selling for diversification needs should be considered highly suspect.

Figure 1. BIIB Daily Closing Price, 05/01/07 through 10/24/07. Red diamonds are the dates where insiders sold under 10b5-1 plans within 2 days of positive news that caused BIIB shares to rally. Source: Reuters, BIIB SEC Filings and 3DAdvisors, LLC.

Framing the incredibly-fortuitous timing of the above sales, we are curious to as to how, after issuing bullish long-term guidance on September 6th, which included a 15% compound annual growth rate from 2007 to 2010, Biogen would miss both its revenue and earnings numbers in its release just six weeks later. But of course this did not happen until *after* management had sold off big blocks of stock in the wake of the news that it was shopping the Company.

Insider Trading: Selling behavior suggests deal at a premium is unlikely

Given the hype surrounding a potential Biogen deal, we again must point to the actions of the Company's insiders in assessing the possibility of any transaction taking place that is at a premium to the current price. If such a possibility exists, than why would so many of the Company's key management players be heading for the exits the way they have been? The average reduction for the top nine sellers so far this year is 71% with many of them having cleared out of all available stock options (see Appendix A). Most importantly, six of the insiders who surfaced after the October "We're looking for a buyer" related price spike cashed in options that had been underwater prior to the Company-issued press release. None of the options was in danger of expiring.

We also find it particularly interesting that each insider's sales plan allows for not only the monetization of options, but also the sale of restricted stock shortly after vesting. The Company advertises that the goal, with regards to the granting of restricted stock, is to promote share retention and to "encourage the executives to act in a manner consistent with the long-term interests of the Company and its stockholders", but these 10b5-1 programs seem to ignore the stated objective. Officers have been granted tens of thousands of restricted shares and units since 2004, but only President, Chief Executive **James Mullen** has retained more than 10,000 of the shares. The common stock levels across the board are substantially lower than we would expect from a senior executive team that has been awarded a healthy mix of derivative equity in the past four years.

The table below illustrates the magnitude of holdings reductions of the key sellers this year, with most of the reductions occurring after the May 30th Dutch Auction announcement:

Insider	Position	% Ownership Sold YTD
M. Wiggins	EVP, Business Development	**99%**
H. Hasler	SVP, Intl. Strategic Development	**96%**
B. Adelman	EVP, Portfolio Strategy	**94%**
C. Schneier	EVP, Human Resources	**87%**
J. Dunn	EVP, New Ventures	**82%**
M. Kowolenko	SVP, Pharmaceutical Ops.	**61%**
L. Schenk	Director	**61%**
B. Ross	Director	**40%**

Here are the trading details for some of the above insiders:

- **Mark Wiggins (51)** – Executive V.P., Corporate and Business Development. We have focused a good deal of attention on Wiggins in prior reports due to the number of 10b5-1 sales he executed immediately following price strength resulting from corporate news releases, along with his willingness to take very narrow profits (skimming) on certain option series. He too took action on October 15th, profiting from the Company's disclosure that it was seeking a buyer. The sale covering 90,000 shares was his largest since becoming a registered insider back in 2004 and involved monetizing options that had been underwater prior to the October 12th press release. His 2007 sales liquidated 99% of his actionable ownership. We learned, only recently, Wiggins had opened two trading plans early in 2006, under which he was supposed to sell a total of 104,000 shares through May 2008. Judging from the 400,000 already sold, it would appear he is currently trading under a new plan the Company opted not to disclose. These shares will not be replaced in the near term

as he is scheduled to vest in only 54,000 options and shares by December 2008 (see Appendix A).

- **Hans Peter Hasler (51)** – Senior V.P., International Strategic Business Unit. Hasler is an experienced biotech insider, having served in a number of high-level positions at Abbott and Wyeth before joining Biogen in 2001. He has been a BIIB Section 16 filer since only October 2006, but has been quite clear with his ownership strategy since that time. After selling just 11,000 shares under a trading plan through the first half of the year, he unloaded 174,081 shares, equal to 96% of his holdings, between July 25th and October 15th, which included the monetization of all available stock options (expiration dates: August 2011 to February 2016). His last sale, by far the largest in the past year (108,750 shares), was executed on the same day that BIIB shares spiked on the news they were contemplating selling the Company. Keep in mind, 10b5-1 sales are supposed to prevent timely sales such as these. He currently just owns 8,600 shares of common and will vest in 53,000 options and shares by yearend 2008 (see Appendix A).

- **Burt Adelman (54)*** – Executive V.P., Portfolio Strategy. One of the longest tenured Biogen officers, Adelman headed up the Company's R&D efforts until September 2006 and now oversees the existing drug portfolio. He has sold more shares since July (300,000) than he had cumulatively over the prior five years (290,000), with his last sale of 60,500 shares coming on October 15th at $82. Adelman's current 10b5-1 plan, entered into in October 2005, has only 18,000 shares remaining for sale through December. He has already monetized the majority of his vested options en route to shedding 94% of his ownership this year, of which just a very small percentage will be replaced by the 55,000 options and restricted shares expected to vest through next year (see Appendix A).

- **Craig Schneier (59)*** – Executive V.P., Human Resources. Schneier currently trades under a 10b5-1 plan adopted in February 2006 that ultimately allows him to monetize all available options as they become actionable. The plan calls for the sale of 411,250 shares through April 2009, under which he has already sold 270,742 shares. After never having sold more than 20,000 with any one trade under the existing plan, he has sold 228,750 shares since July alone, equal to nearly 90% of his available holdings. His most recent sale of 18,750 shares on October 15th involved options that had been out of the money and had 8 years remaining before expiration. With lower priced options at his disposal, and plenty of time remaining on the formerly underwater options, it would seem he rushed to act before the pricier options could slip back underwater. Although he will have nearly 100,000 options and shares vest over the next 15 months (see Appendix A), we anticipate these will be quickly sold through his plan.

- **Lynn Schenk (62)** – Director. Schenk is the longest tenured board member, having served on the IDEC board since 1995. On October 15th she executed only her second sale in the past ten years, clearing out four series with expiration dates between January 2010 and January 2016. The 63,000 shares sold accounted for 61% of her holdings and represent ten times the amount she will have vest in next year. Her ownership now stands at its lowest level since 1999.

* Indicates a named executive officer in the current Proxy Statement.

Fundamentals: Litigation could diminish value of RITUXAN to any acquirer

One possible issue complicating the valuation of BIIB and possibly an impediment in getting a transaction done, especially at any premium, involves some legal issues regarding RITUXAN, one of the Company's five drugs in its current drug portfolio. RITUXAN was developed in partnership with Genetech (NYSE:DNA) and accounted for 29% of total company revenues through the first three quarters of 2007. It is used for the treatment of refractory low-grade B-cell non-Hodgkin's lymphomas. Revenue is categorized as unconsolidated joint business with three components: 1) BIIB's share of co-promotion quarterly profits on sales in the US sales by Genetech; 2) Royalties on RITUXAN for international sales (except for Japan). Royalties are received from Genetech; 3) Reimbursement of selling and development expenses from Genetech.

Genetech and BIIB are currently in arbitration over RITUXAN. According to several articles, neither company is saying much. During the 2Q07 conference call, CEO Jim Mullen insists that "the dispute centers around decision making rights." Mullen continues with the following statement: "This is a partnership that goes essentially into perpetuity until there are no sales or profits left. So it is important to get alignment and agreement on how we're going to operate this thing going forward. As I have said previously, our expectation is that all these programs will continue to move forward. As they have. Some of the things in the arbitration are – we will just have to see how those things play out over time. I wouldn't read too much into those."

This arbitration is important though as RITUXAN accounts for 30% of total company revenues with no cost of sales, so from a bottom line perspective it is far more important than the revenue share might suggest. BIIB seems to highlight its importance by devoting nearly three pages of detailed information on clinical studies for RITUXAN in Oncology, rheumatoid arthritis and other immunology indication. This is in stark contrast to AVONEX, which accounted for 60% of total company sales through the first three quarters of the year and receives only a page of discussion notes. However, details on the specific "decision making rights" have not been disclosed in either the BIIB SEC Form 10-K nor in Genetech's 10-K. It is important to note in a case discussion from 1999, it states that Genetech decides on the amount of profit to be shared. An additional point of information is that as the new anti-CD20 products are approved, BIIB's share of the profit declines based on the achievement of sales levels. Granted higher sales at a lower rate is still more profitable than lower sales at a higher rate – but the new formula is slightly lower than what is currently in place. The current agreement states that BIIB receives 30% on the first $50m and 40% on sales greater than $50m. The new profit-sharing formula grants 30% for first $50m, 38% greater than $50m, and 35% greater than $150m and 30% greater than $350m.

The arbitration is discussed in the risk section of Biogen's SEC Form 10-K in the following manner, "Several aspects of our corporate governance and our collaboration agreements may discourage a third party from attempting to acquire us." The description then goes on to say that, "our amended and restated collaboration agreement with Genetech provides that, in the event we undergo a change of control, within ninety days Genetech may present an offer to us to purchase our rights to RITUXAN." Recently, in an arbitration proceeding brought by Biogen Idec relating to the collaboration agreement, Genetech alleged for the first time since the November 2003 transaction in which Idec acquired Biogen, that the merger constituted a change of

control. This is an assertion that Biogen disputes. “It is Biogen’s position that the merger did not constitute a change of control under our agreement with Genetech and that, even if it did, Genetech’s rights under the change of control provision have long since expired.” This claim by Genetech is new to the 2006 SEC Form 10-K.

Biogen’s 10-K gives the impression that the primary dispute is over a change of control whereas general information on the trials of the humanized anti-CD20 program are found after looking at Genetech’s SEC Form 10-K and first two SEC Form 10-Qs for 2007. In Genetech’s most recent 10-Q, they claim that in 2006 development decisions involving the humanized anti-CD20 program were made that their collaborator, Biogen, disagreed with. Genetech believes that under its 2003 collaboration agreement they are permitted to proceed with further trials of certain humanized anti-CD20 antibodies and Biogen disagrees. The matter was submitted to arbitration and on April 20, 2007 the arbitration panel denied Biogen’s motion for a preliminary injunction and a motion for a summary judgment. “Resolution of the arbitration could require that both parties agree to certain development decisions before moving forward with humanized anti-CD20 antibody clinical trials and possibly other clinical trials of other collaboration products, including RITUXAN, in which case we may have to alter or cancel planned trials in order to obtain Biogen’s approval.” The hearing of this matter is scheduled to begin in June 2008 and a final decision is expected by the end of 2008.

RITUXAN seems to have served as a high margin cash cow for BIIB since the merger with Idec since it is accounted for as an unconsolidated business allowing BIIB to essentially fund its R&D. As a result, BIIB certainly does want to be in a strong position when it comes to strategic decision making.

	2004	2005	2006	1Q07	2Q07
Revenue from unconsolidated joint business (RITUXAN)	$615.7m	$708.9m	$810.9m	$207.2m	$230.6m
R&D	$685.9m	$747.7m	$718.4m	$191.5m	$218.1m

There is also a lawsuit that involves Genetech and the promotion of RITUXAN. Genetech received a subpoena in October of 2004. Genetech has been advised that the investigation is both civil and criminal in nature. The lawsuit remains active at this time. Biogen co-promotes RITUXAN with Genetech. In a separate lawsuit from January of 2006 there are claims that Biogen directly solicited physicians and their staff members to illegally market off-label uses, trained employees in methods of avoiding the detection of these off-label sales and marketing activities, formed a network of employees whose assigned duties involved off-label promotion of RITUXAN which resulted in the submission of false claims to the government and thereby conspired with Genetech to defraud the government. In December 2006 the Magistrate Judge recommended the court dismiss the case based on Biogen and Genetech’s motion to dismiss. However, the plaintiff filed an objection and as of the most recent 10-Q (2Q07) a final decision has yet to be made.

Fundamentals: Sales of largest revenue producing drug are flattening

AVONEX is used for the treatment of relapsing forms of multiple sclerosis. BIIB uses its own sales force to market and sell AVONEX on a global basis. Worldwide sales of AVONEX totaled $1.3B through the first three quarters of 2007, up 7.6% from the same period in 2006, and were 60% of total revenues for the period (over 90% of product revenues). This is up from $1.5B in worldwide sales for all of 2005.

Sales have increased over the past two years due to price increases, however, volumes have decreased. It is interesting to note that patents for AVONEX expired in the US in 2003 and will expire in Europe in 2011 and 2013. However, it seems that AVONEX is protected under "orphan status" – that is drug companies are encouraged to develop drugs for rare conditions (affecting less than 200,000 people) by guaranteeing no competition to the drug for 7 years unless another drug is proven significantly different. Nevertheless, given that AVONEX accounts for 96% of total product revenues, there seems to be relatively little discussion about the drug both in the SEC Form 10-K and throughout conference calls. In fact, in the 10-K out of 164 pages only 1 full page is devoted to AVONEX to discuss the product's background and use. The focus does seem to be on TYSABRI and how quickly new patients come on board as well as where the new patients come from.

The issue of cannibalization of AVONEX by new TYSABRI patients is beginning to surface however. An interesting question from the Q3 earnings conference call is noteworthy:

> **Analyst**: Should we expect going forward that with your 100,000 patient goal that you would see 20% of those patients leaving AVONEX? So we would have potentially 20,000 patients in declining volume over the next several years.
>
> **Bob Hamm, SVP Pharmaceutical Operations & Technology:** Yes, I would say just to address the last question, what we would expect to see is the ABCRs obviously being affected, as we have seen in the first year and a half of TYSABRI activity. But that AVONEX's share would remain stable within that group; and therefore we would see it relatively flat going forward with the growth in the overall market and whatnot.

AVONEX growth stalled in Q3 (period ending 09/30/07) with U.S. revenues down .07% and International up only because of FX gains (6.6%). The growth of AVONEX was certainly a focal point on the Q3 conference call. AVONEX is still a significant part of revenues and 59% still comes from the US. The fact that it is slowing to declining in the US is very apparent in the comments below and it is also clear that international growth is key to the long-term picture. Here are a few excerpts:

> **Analyst:** Can you just go over - can you give us share for AVONEX in the US and the year-over-year comparison in the same for international?
>
> **Bob Hamm:** The issue in Europe, as I said, is difficult to assess. The fact is AVONEX has been the number one product for many years. As I

reported, the ABCR segment is declining year-over-year, but the AVONEX share remains very stable with its leadership position throughout the world.

And then later on in the call:

Analyst: If you look at the numbers, your revenue growth is up 15% year-to-date and only 12% in the third quarter. So I am wondering what you are seeing in the fourth quarter to reiterate the 16 to 18% growth. Because as I do the math, it looks like you are predicting pretty strong revenues in the fourth quarter.

Paul Clancy, CFO: Yes, so I would say we are expecting a bit of acceleration versus what we have today, right now. Included in that is a pick-up of the TYSABRI which is – we are seeing on a sequential quarter basis. I would say that is probably the biggest driver for the fourth quarter expectation.

Analyst: So what gives you the confidence in the long-term sustainability of AVONEX trends?

J**im Mullen, CEO:** Our expectation in the U.S. is that it, on an absolute basis, is sort of flat to a little bit down. Outside the U.S., it will be modestly increasing. In part that is driven because we are taking on some new markets here and incorporating sales that we didn't have before by going direct in some of these markets. So you look at Brazil, Argentina, Japan, etc. so you get some growth out of new geographies, even though the, if you will, the more mature geographies are going to be relatively flat or even possibly modestly declining.

Fundamentals: Doubts persist whether TYSABRI forecasts will be met

TYSABRI is used for the treatment of relapsing forms of MS. Under terms of collaboration agreement with Elan Corporation, BIIB is solely responsible for the manufacture of TYSABRI and collaborates on the product's marketing, distribution and on-going development activities. TYSABRI was initially approved by the FDA in November of 2004 to treat relapsing forms of MS to reduce the frequency of clinical relapses.

In February of 2005 BIIB & Elan voluntarily suspended the marketing and distribution of TYSABRI due to reports of PML (progressive multifocal leukoencephalopathy) – a rare and frequently fatal demyelinating disease of the central nervous system, in patients treated with TYSABRI. In fact, two deaths were reported from PML associated with TYSABRI. TYSABRI was since been reintroduced with a risk minimization plan (a rigorous education system – i.e. one had to register and be tracked if using and use only takes place if all other therapies have failed and if TYSABRI is being used alone) and black box labeling. In December of 2006 BIIB filed with the FDA to market TYSABRI as an application for Crohn's Disease. However, one of the cases of PML was in a patient who was in a clinical study of TYSABRI in Crohn's Disease. The EMEA (European Medicines Agency) rejected the application to use TYSABRI as a treatment for Crohn's stating that the clinical studies did not show that drug's benefits

outweighed its risks. Recently, however, a panel advising the FDA said TYSABRI should be used to treat Crohn's disease. Although the FDA does not have to follow the recommendation of the EMEA, the FDA often does follow the advice of the medical panel. A final ruling is expected over the next few weeks. In an SEC Form 8-K issued on August 28th, BIIB states that there have been no new reports of confirmed cases of PML through mid-July of 2007.

BIIB wrote down $23.2 million worth of TYSABRI inventory during 2005 when Elan and BIIB voluntarily suspended TYSABRI from the market. As a result, BIIB is now selling TYSABRI at higher margins due to the fact that inventory being sold has already been written off. As of the 3Q07, BIIB still had $3.9 million worth of written down TYSABRI inventory available for sale. One wonders what TYSABRI margins will look like once the remaining written off inventory is sold off and the product returns to a normal level of cost of sales. In addition, the Company discloses, in its Q3 SEC Form 10-Q that "We anticipate that total selling, general, and administrative expenses in 2007 will continue to be higher than 2006 due to sales and marketing and other general and administrative expenses to support AVONEX and TYSABRI growth."

Sales of TYSABRI are picking up since the re-introduction and it now accounts for 11.9% of revenues versus 3.9% one year ago. However, analysts still seem to think that it may be unattainable for BIIB to reach its target of 100,000 patients within three years. According to one article, there are currently 450,000 patients with MS and 135,000 of those are already on BIIB's AVONEX and have been for 11 years. There are an additional four other blockbuster MS treatments and potentially more coming to market, which seems to leave little time and space for TYSABRI to gain market share without a bit of cannibalization. [1] The article also noted that BIIB received news from the FDA that they would be extending their review of the potential TYSABRI label expansion into Crohn's disease with a decision now coming by January 13, 2008. Although management states that the 100,000 patient target includes only a modest contribution from Crohn's disease, the fact remains that even if the label is expanded, BIIB will face additional competition from Johnson & Johnson's REMICADE and Abbott Labs' HUMIRA.

It seems that BIIB has modeled a lot around this product. A large-scale biologic manufacturing facility in Hillerod, Denmark is in the second phase of its construction. The project was put on hold upon the voluntary suspension of TYSABRI, however it got back on track with the first phase expected to be completed at the end of the 3Q07 at a cost of $278 million. The Board authorized an additional $225 million for the second phase but decided to modify the project and not build the fill finish aspect of the plant. One wonders why this modification in construction plans was made and how the original expectations of TYSABRI have changed since the voluntary suspension. The commitment to this facility is cited as a risk within the 2006 SEC Form 10-K and recent 10-Q.

Fundamentals: More drug portfolio questions with TYSABRI if BIIB is sold

BIIB is solely responsible for the manufacture of TYSABRI. In the U.S. TYSABRI is marketed and distributed by Elan Plc while BIIB is responsible for the marketing and

[1] Fool.com "Biogen's Brisk Business", October 24, 2007

distribution of TYSABRI in Europe. Elan and BIIB share in the operating and R&D costs for TYSABRI and share in the losses 50/50. BIIB recognizes revenue on TYSABRI by the sell-through model, when product is shipped to Elan's customers.

In terms of a sale of the company, Elan, BIIB's partner in TYSABRI, has hired Lehman Brothers to explore the options with regard to its right to buy out the remaining rights to TYSABRI in the event of a change of control. If Elan were to buy out the rights – it certainly would eliminate a key growth component of BIIB's business plan (the importance of TYSABRI was mentioned several times in the 3Q call). One would imagine that Elan will not let TYSABRI go without a fight due to the fact that it has been part of Elan's strategy to return to profitability. Elan's revenue growth has been primarily driven by TYSABRI.

With the issues surrounding both the RITUXAN and TYSABRI ownership/rights picture, one is hard-pressed to understand how Biogen could produce a definitive win in any negotiations to sell the Company, especially given the success management has had getting Biogen's shares bid to current premium levels. In addition, the cannibalization of AVONEX revenues at the expense of TYSABRI sales, should the latter reach the 100,000 patient goal, provides a separate wrinkle in the already-flattening AVONEX picture.

It would seem to us that Biogen may very well not be a stand-alone company in the future and that a larger company, or companies, could be interested in pieces of either its current franchise or developing pipeline. However, given the uncertainties surrounding key drugs in its portfolio, any transaction or transactions at or near the current share price seems unlikely, especially given the aggressive selling behavior of the individuals who presumably know best.

Appendix A

Option and Restricted Stock Vesting Schedules for Selected Biogen Idec, Inc. Insiders

Grant Date	Equity Type	Options/ Shares	Strike Price (Options)	First Vesting Date	Expiration Date (Options)	Remaining Options/Shares in Series	Unvested Options/Shares in Series	Vesting Dates of Remaining Restricted Shares/Options
Burt Adelman, Executive V.P.-Portfolio Strategy. Common stock holdings: 8,278 shares								
02/06/04	Options	35,000	$43.50	12/31/04	02/06/14	8,750	8,750	12/31/07
2/17/05 [1]	Options	75,000	$67.57	02/17/06	02/17/15	37,500	37,500	02/17/08, 02/17/09
02/07/06	Options	40,900	$44.59	02/07/07	02/07/16	40,900	30,675	02/07/08, 02/07/09, 02/07/10
02/07/06	R. Stock	16,400	N/A	02/07/07	02/07/09	10,934	10,934	02/07/08, 02/07/09
02/12/07	Options	32,400	$49.17	02/12/08	02/12/17	32,400	32,400	02/12/08, 02/12/09, 02/12/10, 02/12/11
02/12/07	R. Stock	12,500	N/A	02/12/08	02/12/10	12,500	12,500	02/12/08, 02/12/09, 02/12/10
John Dunn, Executive V.P.-New Ventures. Common stock holdings: 2,629 shares								
02/06/04	Options	32,970	$43.50	12/31/04	02/06/14	12,970	8,243	12/31/07
2/17/05 [1]	Options	60,000	$67.57	02/17/06	02/17/15	60,000	30,000	02/17/08, 02/17/09
02/07/06	Options	27,300	$44.59	02/07/07	02/07/16	27,300	20,475	02/07/08, 02/07/09, 02/07/10
02/07/06	R. Stock	10,900	N/A	02/07/07	02/07/09	7,267	7,267	02/07/08, 02/07/09
02/12/07	Options	38,900	$49.17	02/12/08	02/12/17	38,900	38,900	02/12/08, 02/12/09, 02/12/10, 02/12/11
02/12/07	R. Stock	15,000	N/A	02/12/08	02/12/10	15,000	15,000	02/12/08, 02/12/09, 02/12/10
Hans Peter Hasler, Senior V.P.-International Strategic Business Unit. Common stock holdings: 8,695 shares								
02/06/04	Options	27,475	$43.50	12/31/04	02/06/14	6,869	6,869	12/31/07
2/17/05 [1]	Options	45,000	$67.57	02/17/06	02/17/15	22,500	22,500	02/17/08, 02/17/09
02/07/06	Options	40,900	$44.59	02/07/07	02/07/16	30,675	30,675	02/07/08, 02/07/09, 02/07/10
02/07/06	R. Stock	16,400	N/A	02/07/07	02/07/09	10,934	10,934	02/07/08, 02/07/09
02/12/07	Options	51,800	$49.17	02/12/08	02/12/17	51,800	51,800	02/12/08, 02/12/09, 02/12/10, 02/12/11
02/12/07	R. Stock	20,000	N/A	02/12/08	02/12/10	20,000	20,000	02/12/08, 02/12/09, 02/12/10
Michael Kowolenko, Senior V.P.-Pharmaceutical Operations. Common stock holdings: 623 shares								
04/01/02	Options	6,900	$42.12	04/01/03	04/01/12	3,450	0	Fully Vested
12/06/02	Options	8,711	$37.45	12/06/03	12/06/12	4,355	0	Fully Vested
02/06/04	Options	22,500	$43.50	12/31/04	02/06/14	14,062	5,625	12/31/07
2/17/05 [1]	Options	35,000	$67.57	02/17/06	02/17/15	35,000	17,500	02/17/08, 02/17/09
02/07/06	Options	34,100	$44.59	02/07/07	02/07/16	29,837	25,575	02/07/08, 02/07/09, 02/07/10
02/07/06	R. Stock	13,600	N/A	02/07/07	02/07/09	9,067	9,067	02/07/08, 02/07/09
02/12/07	Options	45,300	$49.17	02/12/08	02/12/17	45,300	45,300	02/12/08, 02/12/09, 02/12/10, 02/12/11
02/12/07	R. Stock	17,500	N/A	02/12/08	02/12/10	17,500	17,500	02/12/08, 02/12/09, 02/12/10

Appendix A

Option and Restricted Stock Vesting Schedules for Selected Biogen Idec, Inc. Insiders

Grant Date	Equity Type	Options/ Shares	Strike Price (Options)	First Vesting Date	Expiration Date (Options)	Remaining Options/Shares in Series	Unvested Options/Shares in Series	Vesting Dates of Remaining Restricted Shares/Options
James Mullen, President, Chief Executive Officer. Common stock holdings: 48,960 shares								
12/09/99	Options	718,750	$62.28	12/09/00	12/09/09	172,500	0	Fully Vested
06/16/00	Options	287,499	$51.85	06/16/01	06/16/10	287,499	0	Fully Vested
12/15/00	Options	143,750	$45.46	12/15/01	12/15/10	143,750	10,268	12/15/07
12/14/01	Options	402,500	$49.03	12/14/02	12/14/11	402,500	0	Fully Vested
12/06/02	Options	345,000	$37.45	12/06/03	12/06/12	345,000	0	Fully Vested
02/06/04	Options	150,000	$43.50	12/31/04	02/06/14	150,000	37,500	12/31/07
2/17/05 [1]	Options	325,000	$67.57	02/17/06	02/17/15	325,000	162,500	02/17/08, 02/17/09
02/07/06	Options	240,000	$44.59	02/07/07	02/07/16	240,000	180,000	02/07/08, 02/07/09, 02/07/10
02/07/06	R. Stock	80,000	N/A	02/07/07	02/07/09	26,667	26,667	02/07/08, 02/07/09
02/13/07	Options	210,000	$49.17	02/13/08	02/13/17	210,000	210,000	02/13/08, 02/13/09, 02/13/10, 02/13/11
02/13/07	R. Stock	70,000	N/A	02/13/08	02/13/10	70,000	70,000	02/13/08, 02/13/09, 02/13/10
Craig Schneier, Executive V.P.-Human Resources, Public Affairs & Corporate Communications. Common stock holdings: 3,905 shares								
02/06/04	Options	145,000	$43.50	12/31/04	02/06/14	36,250	36,250	12/31/07
2/17/05 [1]	Options	75,000	$67.57	02/17/06	02/17/15	56,250	37,500	02/17/08, 02/17/09
02/07/06	Options	60,000	$44.59	02/07/07	02/07/16	60,000	45,000	02/07/08, 02/07/09, 02/07/10
02/07/06	R. Stock	24,000	N/A	02/07/07	02/07/09	16,000	16,000	02/07/08, 02/07/09
02/12/07	Options	38,900	$49.17	02/12/08	02/12/17	38,900	38,900	02/12/08, 02/12/09, 02/12/10, 02/12/11
02/12/07	R. Stock	15,000	N/A	02/12/08	02/12/10	15,000	15,000	02/12/08, 02/12/09, 02/12/10
Mark Wiggins, Executive V.P.-Corporate and Business Development. Common stock holdings: 1,411 shares								
02/06/04	Options	27,475	$43.50	12/31/04	02/06/14	6,869	6,869	12/31/07
06/15/04	Options	20,000	$59.39	06/15/05	06/15/14	6,250	5,000	06/15/08
2/17/05 [1]	Options	51,000	$67.57	02/17/06	02/17/15	25,500	25,500	02/17/08, 02/17/09
02/07/06	Options	47,700	$44.59	02/07/07	02/07/16	35,775	35,775	02/07/08, 02/07/09, 02/07/10
02/07/06	R. Stock	19,100	N/A	02/07/07	02/07/09	12,734	12,734	02/07/08, 02/07/09
02/12/07	Options	29,800	$49.17	02/12/08	02/12/17	29,800	29,800	02/12/08, 02/12/09, 02/12/10, 02/12/11
02/12/07	R. Stock	11,500	N/A	02/12/08	02/12/10	11,500	11,500	02/12/08, 02/12/09, 02/12/10

[1] These options are fully vested but the sale of shares is restricted until the dates provided.