ORIGINAL

Barr Pharmaceuticals, Inc.

25 Massachusetts Avenue, N.W., Suite 440, Washington, D.C. 20001 • 202/393-6599 • FAX: 202/638-3386

December 19, 2008

Federal Trade Commission
Office of the Secretary
Room H-135 (Annex F)
600 Pennsylvania Ave., NW
Washington, DC 20580

Re: 'Emerging Health Care Competition and Consumer Issues – Comment, Project No. P083901'

Dear Sir/Madam:

Barr Pharmaceuticals, Inc. takes this opportunity to supplement its September 30, 2008 responses to the questions that the Commission presented on or about August 27, 2008. More specifically, these brief supplemental comments follow up on issues raised by various written comments submitted to the Commission, as well as during the Commission's November 21, 2008 Roundtable Discussion.

In addition to submitting these supplemental written comments, Barr also wishes to thank the Commission for the Roundtable Discussion held in November. We believe the Roundtable advanced the discussion surrounding generic biologics in several important respects.

Should you have any questions or require any additional information, please do not hesitate to ask.

Sincerely,

Bruce L. Downey
Chairman and CEO, Barr Pharmaceuticals, Inc.

Enclosures

Emerging Health Care Competition and Consumer Issues – Comment, Project No. P083901
Supplemental Comments From Barr Pharmaceuticals, Inc.

Barr Pharmaceuticals, Inc. submits the following supplemental written comments with respect to follow-on biologic drugs, also referred to as generic biologics.

1. Context Matters: "Data Exclusivity" In The Brand/Generic Context *Is A Complete Ban* On The Submission Of A *Generic* Application.

"Data exclusivity" has very different consequences depending on whether the discussion focuses on the brand/brand context or the brand/generic context. When requesting a period of "data exclusivity" for branded biologics, brand companies and their representatives consistently focus on what data exclusivity means for other brand companies, rather than focusing on the relevant inquiry, *i.e.*, what data exclusivity means in the brand/generic context. Why? Because in the brand/generic context, "data exclusivity" creates an absolute ban on the submission of a generic application, and they understand that asking for a complete ban on the submission of generic applications for 12-16 years would be a tough sell.

Data exclusivity prohibits FDA from relying on data from one application when deciding whether to approve another. Thus, data exclusivity does not prevent a brand company from submitting, and FDA from approving, a full application. For example, Company A could have 5 years of data exclusivity for product X. This data exclusivity does not prevent Company B from submitting a full application for product X. But of course, the generic biologics discussion is not taking place because generic companies wish to submit full BLAs for branded versions previously-approved biological drug products. As the brand companies well know, the only reason for this discussion is because Congress is looking to enact a *generic* approval pathway. Thus, the only relevant question is what impact data exclusivity would have on *generic* applications. The impact of data exclusivity on the submission of full brand applications simply is not relevant to the present discussion.

Without question, data exclusivity in the brand/generic context acts as a complete ban on the submission of a generic application. That is, a company cannot even submit an application for a generic product during the period of data exclusivity. In this critical respect, data exclusivity is substantively indistinguishable from an absolute filing moratorium on generic biologic applications. Thus, the only reason that the brand companies focus on data exclusivity vis-à-vis other brand applications is to attempt to make their request for 12, to as many as 16 years of data exclusivity, appear less harmful to competition. But FTC and Congress should be clear: 12-16 years of data exclusivity means a 12-16 year ban on filing a generic biologic application.

Significantly, because data exclusivity is a complete ban on the filing of a generic application, the effective exclusivity period is far longer than 12-16 years. Why? Because FDA cannot approve a generic application the same day that it gets submitted for review. Thus, the effective period of brand exclusivity that comes with a 12-16 year filing moratorium is 12-16 years *plus the amount of time that it takes the Agency to review the generic application.*

Consequently, if it takes FDA one year to review and approve the generic application, the exclusivity period awarded to the brand company is 13-17 years; if it takes two years to review, the brand company gets 14-18 years; and so on. Again, FTC and Congress should be clear about what "data exclusivity" means in this context and the competitive consequences that it will have for generic biologics.

Finally, when seeking data exclusivity for branded biologics, brand companies like argue that data exclusivity is less anticompetitive than "market exclusivity." This is disingenuous. Here, too, the focus must be on the brand/generic context and in that context, market exclusivity can be viewed as somewhat less harmful to competition in one respect: data exclusivity precludes the submission of a generic application, while market exclusivity precludes approval (and not the submission) of a generic application. Consequently, the delay to generic competition caused by market exclusivity is less than the delay caused by data exclusivity. This is because a generic company can submit its application during the market exclusivity period and FDA can carry out its review during that period. Thus, immediately upon expiration of the market exclusivity period, FDA can approve the generic application. Again, it is critical that both FDA and Congress understand the competitive consequences of market and data exclusivity in the brand/generic context.

2. Linkage Between Patent Litigation And FDA Approval Will Significantly Harm Competition By Unduly And Unnecessarily Delaying Approval Of Lower-Priced Generic Biologics.

To begin, "linkage," in this context, means that if the generic company does not prevail in the patent litigation authorized by the statutory patent dispute resolution mechanism (whatever that mechanism turns out to be), FDA automatically is precluded from approving that generic application until patent expiration, regardless of whether the patentee could satisfy its burden of proof to obtain a permanent injunction. The brand industry is pushing Congress for this linkage precisely because it would unduly delay competition. Indeed, the undue and unwarranted delay of competition could be staggering if a generic biologics bill includes both linkage and a patent dispute mechanism that allows any and all third parties to litigate patent disputes pre-generic launch.

Hatch-Waxman contains linkage between the patent dispute mechanism and ANDA approval. This linkage, without question, has delayed the approval and launch of various non-infringing generic drug products. The 30-month stay of generic approval upon initiation of litigation and the automatic ban of ANDA approval if the generic does not prevail in its litigation has encouraged brands to initiate Hatch-Waxman litigation, even in questionable circumstances, which in turn has delayed generic marketing. The problem would be far worse in the biologics context because Hatch-Waxman at least strictly limits the types of patents that can lead to an automatic permanent injunction. Many of the pending generic biologics bills do not set limits on the types of patents that can be part of the dispute mechanism, nor do they limit the companies that can assert patents. The broader the scope of the dispute resolution mechanism, the more likely it is that linkage would delay generic approval where the patentee could not do so using its patent and the rights afforded under the patent laws.

Consider the patent portfolio discussed during the November 21, 2008 FTC Roundtable discussion on patents. The Tier 2 patents were technology platform patents owned by a third party that had non-exclusively licensed them to several companies. Given its extensive history of non-exclusively licensing these patents, it would be extremely difficult for the owner of such patents to obtain a permanent injunction if a generic biologics applicant was found to infringe. Yet, if the generic biologics bill contains linkage, a permanent injunction would be automatic, thus severely harming competition. Indeed, linkage would vest such a patentee with rights not granted by the patent laws and there is no justification for linkage of this nature. The patent law provides a mechanism for patentees to obtain a permanent injunction when warranted.

Further, linkage and an unlimited ability for third parties to participate in a generic biologics patent dispute mechanism could lead to frivolous litigation that would severely harm competition. If linkage is the prize for prevailing in patent litigation and anyone is allowed to assert a patent against the generic applicant, a generic competitor (or a potential generic competitor) would have a significant financial incentive to assert an infringement claim because victory would keep the applicant out of the market even though it would be very difficult (if not impossible) for such a patentee to obtain a permanent injunction.

In sum, linkage encourages litigation without regard to the merits of the case. Thus, particularly if third parties are going to be part of the generic biologic patent mechanism, it is imperative that there be no linkage between the patent litigation and generic approval. Any other result will, without question, cause FDA approval of lower-priced generic medicines to be delayed for years, even in instances where the patentee could never have obtained such relief on the merits of an injunction request in the patent litigation itself. Such unwarranted delays threaten to deprive consumers and taxpayers of significant, much-needed savings.[1]

3. Generic Exclusivity Is Critically Important, And Contrary To What Many In The Brand Industry Have Argued, Will *Not* Create Any Incentive To Launch Frivolous Patent Suits.

Generic companies must be given some incentive to shoulder the resources that will be needed to earn an interchangeability rating from FDA. Congress recognized this fact back in 1984 when enacting Hatch-Waxman. Any generic biologics bill should also contain a generic exclusivity incentive for the first company to obtain FDA approval of an interchangeable biologic product.

Some brand companies have argued against generic exclusivity for biologics because such an incentive allegedly would do nothing but encourage frivolous patent challenges and add to the cost of developing branded biologic products. This simply is not the case, as is

[1] Attached hereto is a copy of Bruce Downey's keynote presentation at the December 3, 2008 Bernstein Biosimilar Conference. This presentation, *inter alia*, discusses the potential savings associated with generic biologics.

evident from reading the pending bills.[2] Four of the five pending bills addressing generic biologics contain generic exclusivity provisions: H.R. 1038, S. 1695, H.R. 5629, and S. 1505. Not one of them awards exclusivity based upon which company files the first generic application. Instead, all four bills would award generic exclusivity to the first company to obtain FDA approval, and three of the four bills limit generic exclusivity to the first company to obtain FDA approval for an interchangeable product.[3] As such, not one of the proposed generic exclusivity provisions could possibly be construed as encouraging generic companies to do anything except work as hard as possible to obtain approval for their products – something that fosters competition. Consequently, the concerns expressed by the brand industry do not hold up.

4. Other Aspects of Some of the Pending Generic Biologics Bills Would Negatively Impact Competition.

The FTC's Roundtable addressed three specific types of provisions that the Commission believes could impact competition: brand exclusivity, generic exclusivity, and a patent pathway. It is, however, important that FTC look at and consider the competitive impact of other proposed statutory provisions. The following briefly sets forth some provisions contained in pending generic biologics bills that could have significant, anticompetitive consequences.

(a) Mandatory Guidance or Rulemaking Requirements.

Several brand supported bills would impose mandatory guidance or rule-making requirements. Specifically, these bills would require FDA to begin and complete a final guidance or formal agency rules before approving a generic biologic:

- H.R. 5629: The bill imposes a mandatory guidance process for the submission and approval of all generic applications. FDA cannot accept a generic application until it begins the formal guidance process. Further, FDA cannot approve a generic application until it completes the guidance process for the product class of which the generic product is a part. Further still, under the bill, FDA could not make an interchangeability determination "unless the Secretary has published a final guidance, following receipt and consideration of public comments on a draft guidance, advising that if is feasible in the current state of scientific knowledge to make such determinations with respect to products in the product class to which the [generic] belongs and explaining the data that will be required to support such a determination." These mandatory guidance requirements do nothing but delay generic approvals and interchangeability determinations for years.

---

[2] Barr does not accept the brand industry's suggestion that generic companies have launched frivolous Hatch-Waxman cases because of the possibility of receiving generic exclusivity, and the brand industry cites no support for its contention.

[3] S. 1505 does not permit FDA to approve interchangeable products, and thus it does not limit exclusivity to the first company to obtain approval of such a product.

- H.R. 1956: The bill imposes a mandatory guidance process for the submission and approval of all generic applications. FDA cannot accept a generic application until it publishes a "final product-class specific guidance." While the bill states that the final guidance process should be completed in 2 years, these statutory deadlines are not necessarily binding on FDA. And, of course, while the bill requires this guidance process prior to generic submission, it nevertheless contains pages of mandatory "required elements" for the guidance, which further indicates that this process is designed to delay competition.

- S. 1505: The bill imposes a mandatory notice and comment rulemaking requirement for the submission and approval of all generic applications. FDA cannot accept a generic application until the Agency publishes "a final class-specific rule." While the bill states that the final rulemaking process should be completed in 2 years, these statutory deadlines are not necessarily binding on FDA. And, of course, while the bill requires this rulemaking process prior to generic submission, it nevertheless contains pages of mandatory "required elements" for the rule, which further indicates that this process is designed to delay competition.

The fact is, the history of guidance and regulation issuance suggests that such mandatory requirements almost certainly would (by design) delay the approval of generic biologics for many years, without any benefit to the public. It can, for example, take FDA years to begin the guidance process, and once it does begin the process, it can take the Agency several more years to issue a draft guidance. A review of FDA's guidance webpage shows several draft guidances issued as far back as 1999 – drafts for which FDA has not yet issued (and may never issue) final documents. As of the end of February 2008, FDA's guidance webpage listed *over 100 draft guidances* currently issued by FDA, excluding draft International Conference on Harmonisation guidance documents. Conducting formal notice-and-comment rulemaking can take even longer than issuing a final guidance. For example, Congress enacted Hatch-Waxman in 1984. FDA did not publish proposed regulations for ANDA approvals until 1989. The Agency adopted some final regulations in 1992, with others following in 1994 – more than *10 years after* enactment of that Act. At the end of the day, mandatory guidance/rulemaking proposals such as those found in several bills serve only to delay the introduction of safe and affordable generic versions of such products as EPO, which FDA approved back in 1989.

Finally, it is critical to bear in mind that the law does not require FDA to issue guidances or regulations prior to approving branded biological products (or traditional drug products for that matter). That is, for products with which the Agency has no prior experience whatsoever, Congress has not required FDA to engage in a public guidance or rulemaking process prior to the receipt or approval of such applications. FDA therefore should not be required to issue guidances or promulgate regulations before accepting, reviewing, or acting on generic biologic applications. As is the case for brand products, the use of guidances or regulations for generic products should be left entirely to FDA's discretion.

(b) A Requirement That Generic Companies Seek and Obtain Approval for *All* Approved Brand Uses.

Under Hatch-Waxman, a generic company can seek and obtain FDA approval to market a product containing fewer than all uses for which the relevant branded product has been approved. Allowing generic companies to do so is essential to fulfilling Hatch-Waxman's goal of getting affordable generic medicines to the public as quickly as possible. A statutory scheme that would prevent generic biologic applicants from doing the same thing would severely harm competition. Indeed, such a requirement in the biologics context could prevent competition entirely for some biologic medicines.

H.R. 5629 requires a clinical study or studies demonstrating safety, purity, and potency in "*each condition of use* for which the reference product is approved" (emphasis added). Other parts of the bill reiterate this requirement, stating that the generic biologic shall be licensed only if FDA finds the generic to be biosimilar to the brand with respect to "each condition of use for which the reference product is approved." This same requirement appears in the interchangeability section, which requires FDA to determine that the generic biologic "can be expected to produce the same clinical result as the reference product in any given patient for each condition of use prescribed, recommended, or suggested in the labeling of the reference product." The bill, therefore, could require generic companies to conduct clinical trials for each and every use for which the brand is approved. This is a significant impediment to competition for at least two reasons. First, the considerable cost associated with the tests required to establish biosimilarity (not to mention interchangeability) for all approved uses could make it cost prohibitive to pursue some branded products. This would result in less competition. Second, requiring generics to obtain approval for all approved uses allows any brand exclusivity awarded on a single, subsequently-approved indication to block *all* generic competition. In other words, if a bill awards one year of branded exclusivity for a newly approved brand use, but also requires the generic to obtain approval for all approved uses, the exclusivity on that single use prevents the generic from obtaining approval for any use, which delays competition. Given the negative impact of this requirement on competition, and the lack of scientific justification for the same, Congress should allow generic companies to seek and obtain approval for fewer than all approved brand uses, just as they have done for 20-plus years under Hatch-Waxman.

(c) Requiring Unique Non-Proprietary Names.

Several bills (H.R. 5629, H.R. 1956, and S. 1505) would require FDA to give generic biologics "unique" names. Presently, a small molecule is assigned a chemical or "generic" name. For example, "fluoxetine" is the generic name for the active ingredient in Lilly's Prozac®. When FDA approves a generic version of Prozac®, the product is called "fluoxetine." Indeed, all generic versions of Prozac® are referred to by the name "fluoxetine," which again is the non-proprietary name given to the molecule fluoxetine. Having the same non-proprietary name is important, among other things, when it comes to substitution of the generic for the brand. This is, of course, precisely why the brand industry is pushing so hard unique non-proprietary names for brand biologics and their generic counterparts, *i.e.*, to thwart generic substitution, thus harming competition. And any suggestion by the brand industry that unique

names for biologics are necessary for safety reasons simply fails. Indeed, FDA published a position paper on the very issue (published on its website on September 1, 2006), concluding that generic and brand biologics should have the same non-proprietary name, just like brand and generic drugs approved under Hatch-Waxman.

(d) Scientifically-Unsupportable Standards For Interchangeability, Or Precluding FDA From Making Interchangeability.

FDA should be permitted to decide what data and evidence is necessary for establishing interchangeability. Congress should not impose scientifically-unsupportable standards for making this determination. Such standards do nothing but act as improper barriers to generic market entry. H.R. 5629 contains an example of such a requirement. Under that bill, the generic applicant must demonstrate interchangeability not only to the reference brand product, but also to "any biological product licensed under this subsection that has been determined to be interchangeable with the reference product." In other words, if FDA previously determined three generic versions of biologic X to be interchangeable with the brand, the next generic applicant not only would have to establish interchangeability with the brand, but the three previously approved generic products as well. The additional testing that this scientifically-unjustified requirement likely would impose on generic applicants would harm competition in at least two different ways. First, the considerable cost associated with the tests required to establish interchangeability with not one, but four products, could be cost prohibitive for some companies, thus resulting in less competition. Second, the considerable time associated with the tests required to establish interchangeability with not one, but four products, would delay the start of competition/increased competition. These negative consequences on competition simply cannot be justified given the lack of a legitimate scientific reason for imposing such an interchangeability requirement.

The other brand-supported bills, H.R. 1956 and S. 1505, would prevent an interchangeability/equivalence finding altogether. Here, too, there is no scientific justification for withholding such authority from FDA. These prohibitions do nothing but harm competition in the marketplace.

(e) Moving Biologics From The FFDCA to the PHSA.

Some bills propose to move biologics originally approved under the Federal Food, Drug, and Cosmetic Act ("FFDCA") to the Public Health Service Act ("PHSA"). If Congress decides to do so, it is critical that Congress: (1) allow sufficient time for the transition so that generic companies that already have invested in the FFDCA pathway can obtain approval; and (2) prevent brand products approved under the FFDCA from benefiting from any exclusivity granted to branded biologics approved under the PHSA. Absent such measures, competition will suffer.

H.R. 5629 addresses biologics approved under the FFDCA. Under that bill, all biological product applications must be submitted under 351 of the PHSA, rather than 505 of the FFDCA unless (1) the biological product is in a class of products that were approved under 505

prior to enactment of the bill, *and* (2) the generic 505 application was submitted to FDA prior to enactment of the bill or within 10 years of enactment of the draft bill. Thus, the bill does contain a transition period, which protects the investments already made by generic companies developing affordable versions of biologics FFDCA products. But under H.R. 5629, an application approved under the FFDCA shall be deemed to have been approved under the PHSA on the date that is 10 years after enactment, which could mean that branded biologics approved under the FFDCA could be entitled to exclusivity under the bill. For example, assume biologic X was approved in 2008 under the FFDCA and the new generic biologics bill is enacted in 2009 and provides for 12 years of brand exclusivity. Under this bill, biologic X would have deemed to have been approved under the PHSA in 2019. H.R. 5629 could be read as giving biologic X one year of exclusivity. This result is unjust and creates a windfall to the brand at the expense of competition.

H.R. 1956 and S. 1505 simply cut off FDA's ability to approve biologics under the FFDCA and arguably can be read as bringing all FFDCA products under their scope. As such, these bills raise even more concerns for competition than H.R. 5629. Again, to protect and encourage competition, a generic biologics pathway must protect investments already made in generic FFDCA biologic products and ensure that branded biologics approved under the FFDCA do not receive any brand exclusivity included as part of a biologics pathway under the PHSA.

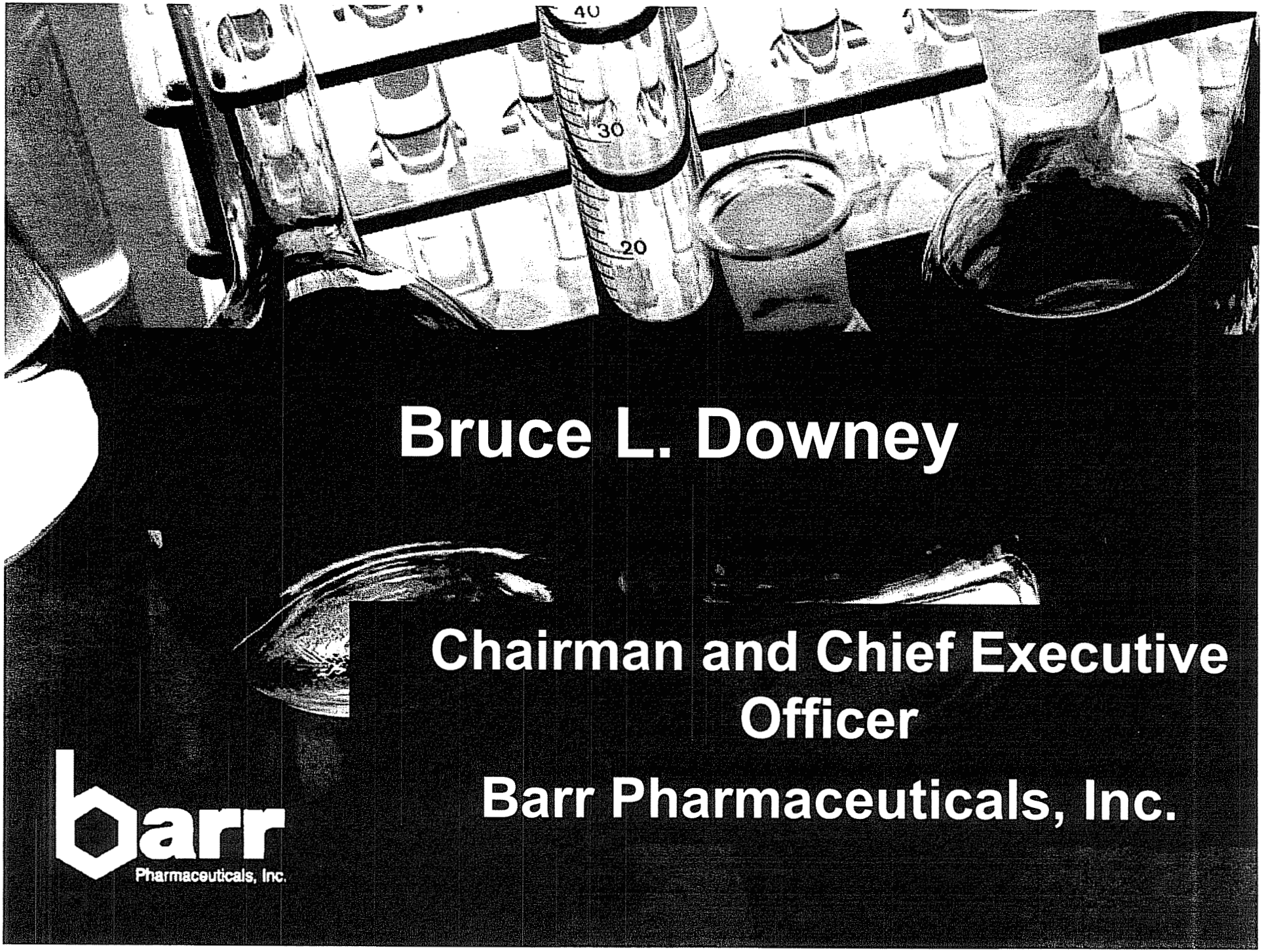
(f) Precluding Generic Applications for Certain Categories of Biologics.

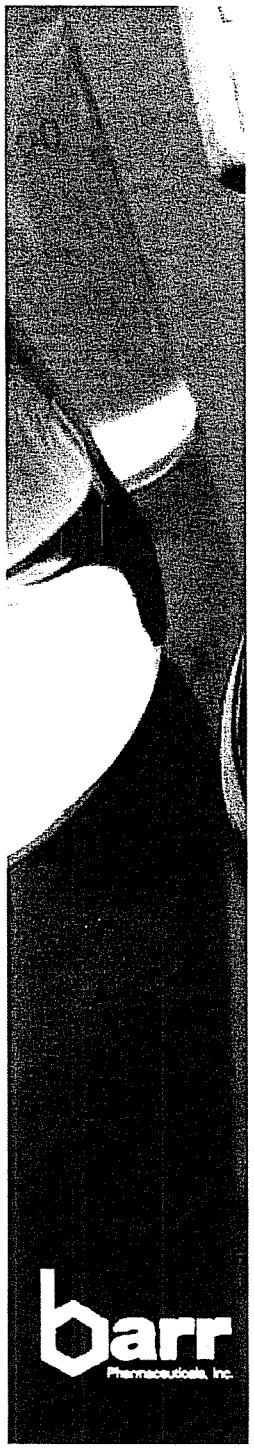
Generic biologics legislation should allow companies to submit applications seeking to market more affordable versions of all branded biologics. Congress should not preclude competition for certain categories of biologics. H.R. 5629, for example, would prohibit FDA from approving a generic version of "select agents and toxins." While perhaps appearing reasonable on its face, the provision actually appears to be an attempt to protect certain drugs from generic competition. For example, Botox®, which is botulinum toxin type A (approved under BLA 103000), could fall within the scope of this provision. The concern, therefore, is that the proposal would protect certain types of products from generic competition, even though there does not appear to be a scientific justification for such a provision.

Bernstein Biosimilars Conference

barr Pharmaceuticals, Inc.

December 3, 2008


40
30
20
Bruce L. Downey
Chairman and Chief Executive Officer
Barr Pharmaceuticals, Inc.
barr
Pharmaceuticals, Inc.

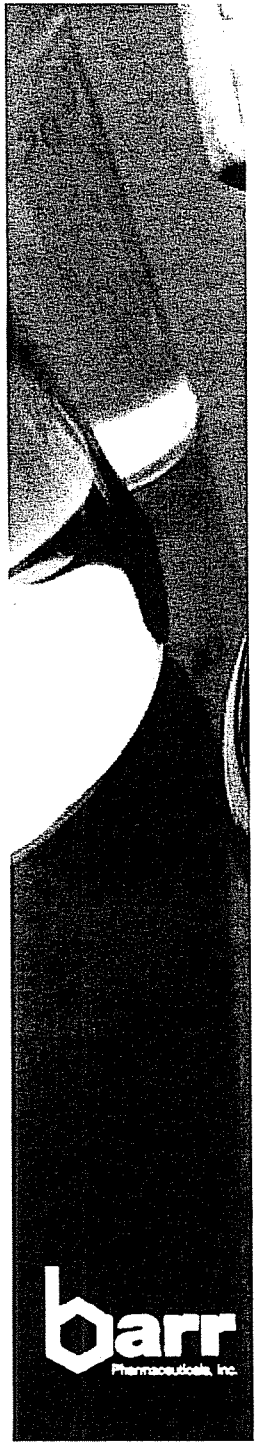


Presentation Overview

- Generic Biologics
  - Opportunities & Benefits
  - History of the Movement
  - Status of Issues and Probable Resolutions
- Summary

Opportunities & Benefits

barr
Pharmaceuticals, Inc.



Opportunities and Benefits

- Business Opportunities
- Cost Saving Opportunities
  - Savings for consumers
- Incentives for Increased R&D
  - Generic Competition Will Fuel Innovation
  - Brand companies will have the incentive needed to vigorously pursue new biologics

Increasing Significance of Biologic Products

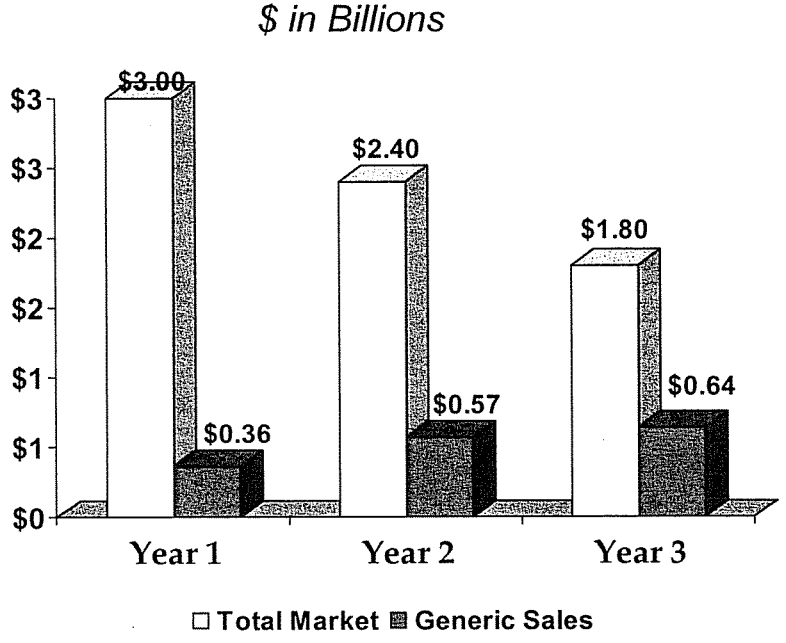
- Significant Biologics Business Worldwide and in U.S.
  - Worldwide Market Estimated around $75 Billion*
  - US Market Estimated around $65.2 Billion*
- Biologic's Market Continues to Grow With Investment
  - 400 Biologics & Vaccines Currently in Clinical Trials Targeting >200 Diseases**
  - Between 2003 and 2006, biologics represented 24% of all new chemical entities approved by the US***
  - Sales of biotech products in the US showed an annual growth rate of 20% between 2001 and 2006 compared with 6% to 8% in the pharmaceutical market***
- Significant Savings to Be Realized with Generic Biologics
  - Per Patient Cost for Biologic Products Can Exceed $100,000 Per Year
  - US Consumers Could Save $43 Billion Between 2011 and 2020**
  - Estimated Value of Biologics that have already lost Patent Protection: $10 Billion***
  - Estimated Value of Biologics to lose Patent Protection in the Next Ten Years: $20 Billion***

**IMS Health; **Ernst & Young; ***Biotechnology Industry Organization;*

***** Journal of American Medical Association, October 22, 2008; *****ABN AMRO February 2008*

Business Opportunity – Enbrel Example

- Generic Biologics Represent Significant Cost Savings Opportunities and Stimulate Innovation



Enbrel: Approximately $3B Market

- Year 1: Generic Share is 20%, Price is 60%
- Year 2: Generic Share is 40%, Price is 60%
- Year 3: Generic Share is 60%, Price is 60%

Market Size for Select Biologic Products

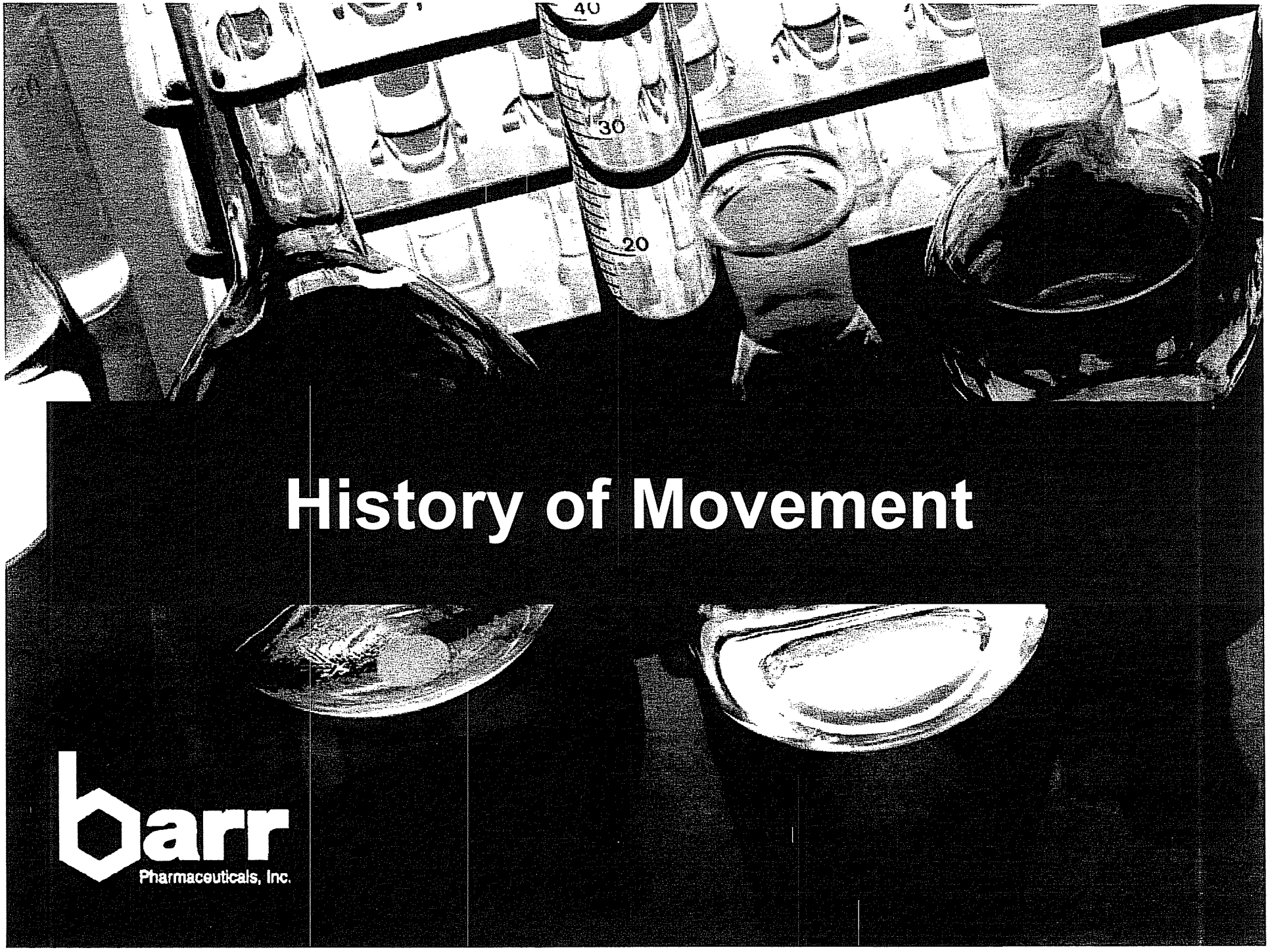
Product	2006 Sales ($ Millions)	Patent Expiration
Aranesp (Darbapotein alfa)	$2,790	2016
Enbrel (Etanercept)	$2,736	2012
Epogen (Epotein alfa)	$2,511	2004
Remicade (Infliximab)	$2,355	2013
Rituxan (Rituximab)	$2,071	2013
Eprex (Ortho Biotech)	$2,064	2004
Avastin (Bevacizumab)	$1,746	2019
Rebetron (Ribavirin & Interferonalfa-2B)	$1,361	2001
Lantus (Insulin glargine)	$1,260	2015

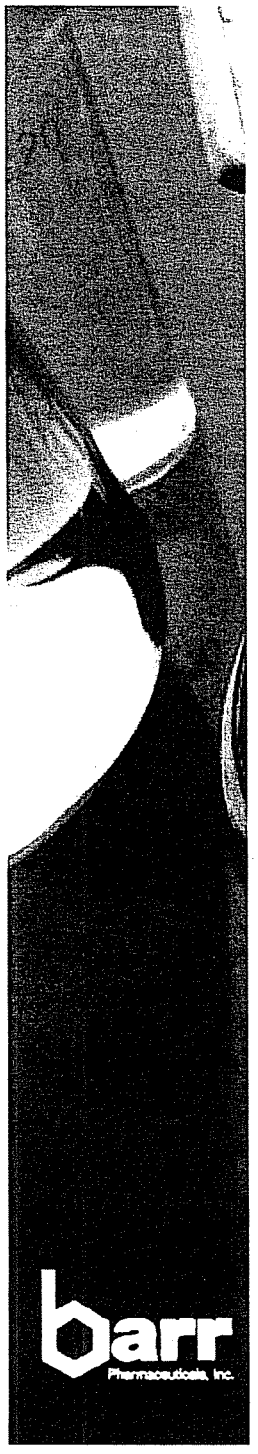
Source: ABN AMRO February 2008

Market Size for Select Biologic Products

Product	2006 Sales ($ Millions)	Patent Expiration
Humira (Adalimumab)	$1,176	2013
Avonex (Interferon beta-1a)	$1,022	2003
Cerezyme (Imiglucerase)	$1,007	2010
Neupogen (Filgrastim)	$830	2013
Humalog (Insulin lispro)	$811	2013
Ceredase (alglucerase)	$537	2001
Rebif (Interferon beta-1a)	$493	2005
Neulasta (Pegfilgrastim)	$493	2015

Source: ABN AMRO February 2008


History of Movement
barr
Pharmaceuticals, Inc.

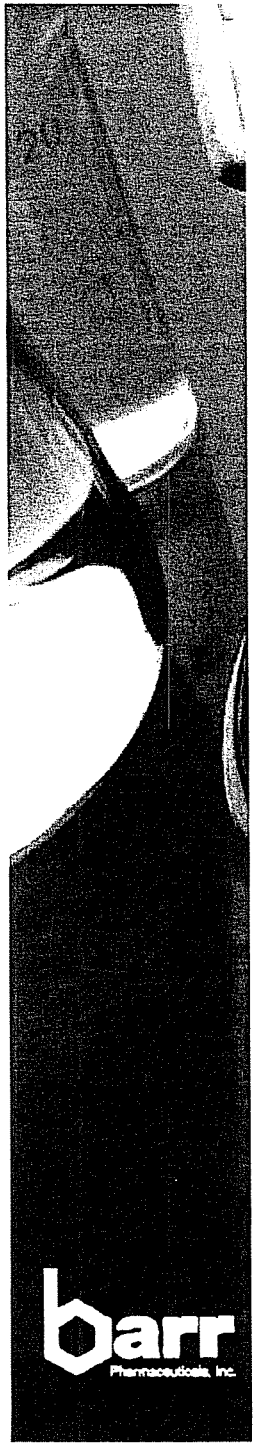


Chronology

- **1998**
  - "One goal of the generic industry....is 'to make sure that there is established...a standardized way of getting biological products and biotech products approved,' Downey remarked." [Bruce Downey, CEO Barr Laboratories] (November 16, 1998 The Pink Sheet)
- **1999**
  - FDA indicates it might be prepared to approve growth hormone using efficacy data based on surrogate end-points
  - FDA issues the draft guidance 505(b)(2) reducing need for duplicative studies
- **2000**
  - **"Biotechnology Companies Try to Ward off Generic Drugs"**
    - Industry maintains that biologics are hundreds or thousands of times larger and more complex than chemical drugs. The New York Times

Chronology

- **2001**
  - March: FDA working on two biogenerics guidances for human growth hormone and insulin.
  - May: BIO asks HHS not to release the HGH and Insulin guidances
  - August: FDA continuing to work on HGH and insulin; other biologics would need a change in law
  - August: Pfizer and Pharmacia petition the FDA to withdraw its 505(b)(2) guidance viewed by some as a route for biogenerics.
- **2002**
  - April: FDA says HGH guidance is done and approved by two coordinating committees. Guidance in the center clearance process
  - Insulin guidance also in process.
- **2003**
  - February, FDA's McClellan says biogenerics are inevitable.
  - April: BIO citizen petition says ANDA process is not possible, approval requires full nonclinical and clinical trials.
  - May: FDA says pre-BLA products such as insulin and HGH coming first.
  - July: Novartis submits Omnitrope (HGH) under the 505(b)(2) process

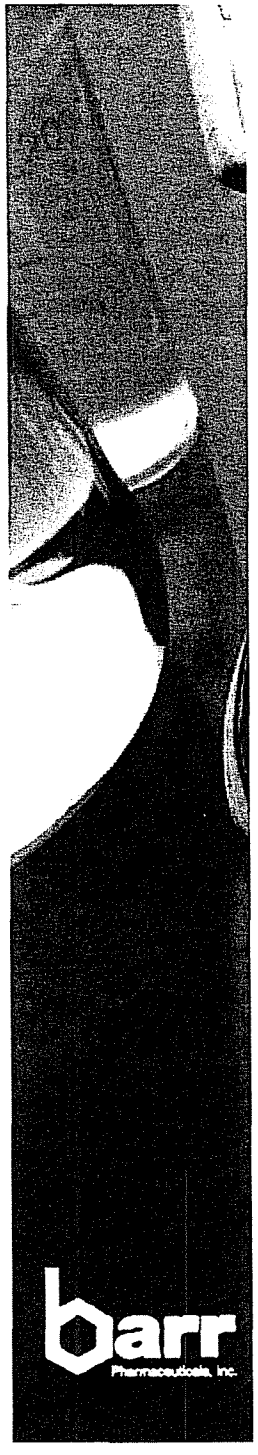


Chronology

- **2004**
  - March: FDA to release a generic biologics guidance; certain forms of HGH, insulin, and some interferons initial generic targets.
  - HGH and insulin guidance continue to be delayed
  - May: Pfizer submits a citizen's petition to block Novartis Omnitrope
  - Acting FDA Commissioner Crawford suggests the FDA has authority to accept HGH and insulin applications guidances will come in the late summer or early fall.
  - August: Pfizer asks for delay on Novartis' HGH until after full biogeneric policies defined.
  - Sept: TFDA holds biogenerics workshop plans another in January 2005.
  - October: Australia approves Novartis' Omnitrope.
  - December: EU issues guidelines for erythropoietin; human growth hormone; granulocyte-colony stimulating factor and insulin.
  - FDA is not ready to approve biogenerics that are not fully characterized.
  - BIO says abbreviated approval process may be doable

Chronology

- **2005**
  - February: FDA completes another biogenerics workshop.
  - FDA will soon release promised biologics draft guidances and it will occur in a "reasonable amount of time."
  - March: EMA receives three biogenerics applications
  - June: FDA says white paper outlining issues would be published in August and guidance in September or October.
  - September: Novartis files suit seeking to force action on Omnitrope
  - October: FDA "behind schedule" on issuing the guidance



Chronology

- **2006**
  - January: EU committee recommends approving Novartis' Omnitrope.
  - February: Senator Hatch and Congressman Waxman request that FDA guidance documents for biogeneric insulin and human growth hormone be released.
  - March: EMEA releases additional biogeneric guideline for insulin, somatropin and GCSF.
  - March: FDA states it will not release guidance for insulin and human growth hormone.
  - April: Court orders FDA to reach a decision on Sandoz's HGH.
  - April: EC approves Novartis' HGH biogeneric
  - May: FDA approves Novartis' Omnitrope.
  - September: Rep Waxman and Senators Charles Schumer and Hillary Clinton introduce the "Access to Life-Saving Medicine Act,"

Chronology

- **2007**
  - January: PCMA Study states Medicare Part B would save $14 billion over 10 years
  - February: Legislation introduced by Waxman and others in the House and Senate.
  - March: Senate HELP Committee holds hearing on biogenerics
  - March Waxman (D-CA) holds hearing on biogenerics
  - April: Rep. Inslee, Green and Baldwin introduced an alternative legislation
  - April: FDA white paper states evaluation of biogenerics safety will evolve, can be approved without extensive clinical trials.
  - May: HELP Committee hearing on biogenerics. Senate placeholder in the FDA Revitalization Act
  - May: BIO says no less than 14 years of data exclusivity.
  - June: Senators Clinton, Enzi, Hatch and Kennedy reach a compromise deal that allows for 12 years of exclusivity
  - June: HELP Committee approves legislation inserting it into the Prescription Drug User Fee Act (PDUFA) reauthorization bill
  - House moves forward on PDUFA with no biogenerics legislation.
- **2008**
  - January: BIO ad says Congress can create approval process that protects patient safety and preserves innovation
  - President Elect Obama is a strong supporter of biogenerics. The Democratic Party platform and the new President's healthcare plan both promise a pathway for biogenerics.

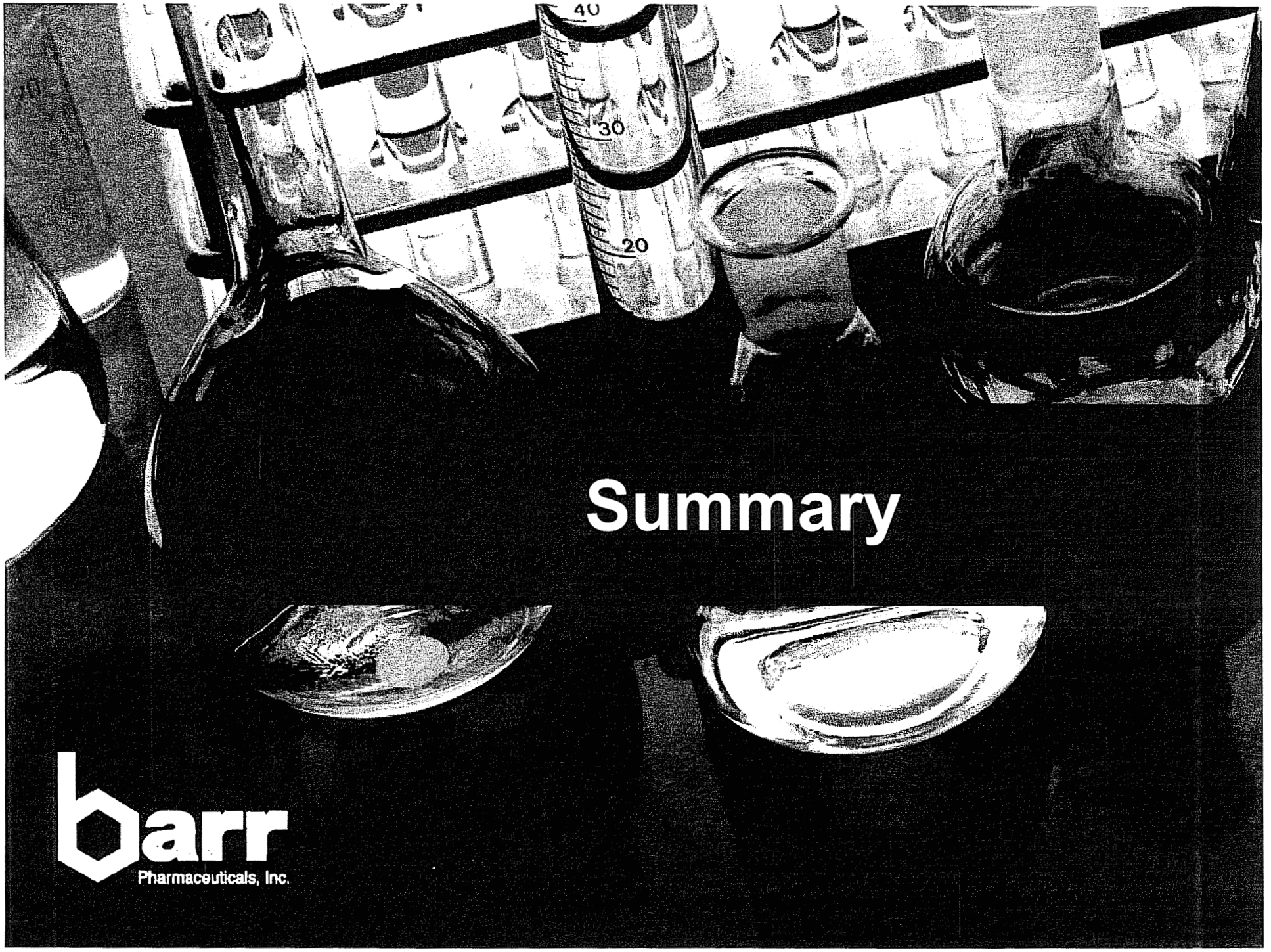

40
30
20
Status of Issues and Probable Resolutions
barr
Pharmaceuticals, Inc.

Status of Issues

- Waxman vs. Eshoo Bill
- Regulatory Process
- Intellectual Property Resolution
- Exclusivity Period

Probable Resolutions

- ANDA Like Pathway
- FDA Authority Over Scientific Issues
  - No Clinical Trial Requirement
  - No Prohibition on Inter-changeability
- Relevant Patents Adjudicated Prior to Generic Launch
- Single Digit Years of Exclusivity



Summary

barr
Pharmaceuticals, Inc.

Summary

- Biologics Opportunity is Large and Growing
- Generic Biologics Will Offer Significant Saving for Consumers
- Legislation in U.S. Likely to Be Active in 2009 and Could Provide Significant Business Opportunities for Generic Industry