Interoffice
Communication

MILES Berkeley CA

Date: April 1, 1987
Subject: Meeting to discuss the TNBP
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To: Pete DeHart
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cc Wayne Johnson - R Galustian
Info - MF

cc: M. Sternberg
K. Fischer
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E. Potere
C. Moore
J. Pennington

Present: G. Mitra, L. Sanchez, M. Fournel, P. Brown, R. Louie, M. Mozen

At the February 27 meeting related to FVIII strategy, we were requested to convene a working meeting to consider what should be Cutter's position relative to TNBP licensing (New York Blood Center) for virus-free Koate. We have done this with the participants shown above. The factor VIII products to which we are currently committed as well as possible back-up ones were tabulated as follows:

	Product/Process	Sp Activity	Approx Mktg Entry
	1. GF/CuPh	50	Q3-4 1988
Potential back-up products	1.1 Koate-HT/TNBP	2	Q1-2 1989
	1.2 GF/TNBP	50	1989—1990
	1.3 MAb/TNBP	≥1000	1990
	2. rFVIII	≥4000	1990

[redacted] GF/CuPh and rFVIII are programs we are fully committed to and they are being actively pursued. The reason for considering TNBP is to develop a back-up product(s) in the event that we are unsuccessful with present projections. If the GF/CuPh product fails, it would be because it was not sufficiently virucidal which is unlikely. However, TNBP products

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will have clinical experience in late 1988 exceeding our experience with CuPh product. Since there are some 27 licensees of the TNBP process, we can expect continuing clinical data to be forthcoming from the various users which will establish TNBP products in the market place. At present, the efforts and resources committed to GF/CuPh are ongoing, and it would be difficult to mount another major project now. We all agreed that we should continue to pursue GF/CuPh, because it has further applicability to other plasma and new technology products and has very attractive high yields of Koate after virus inactivation.

Subsequent to this meeting, further discussions with M. Sternberg brought out pertinent points regarding our present HS product. Koate-HS which is virus inactivated by heating in solution has the benefit of being:

- already approved in US.
- imminent approval in Germany
- similar inactivation with Behring's solution heated factor VIII, thus an abundance of clinical experience.
- there are no unresolved toxicology issues. According to Dr. Ken Woods from NYBC, the TNBP generates butyl alcohol after being metabolized. The consequences of this have not been determined.

Of the back-up products listed, advantages and disadvantages were discussed:

1.1 Koate HT/TNBP could be developed relatively quickly depending on whether TNBP is approved generically, or we

must adopt the whole NYBC process and whether our process would yield satisfactorily low levels of residuals. It presumably would provide a virus-safe product albeit of "low" specific activity. If TNBP is added to HT, royalty payments become very significant. Without HT, we must effectively demonstrate that it is effective with our process and perhaps compete with products both dry heated and treated with TNBP.

1.2 GF/TNBP would provide a relatively high specific activity virus-free product. This would allow us to capitalize on our gel filtration know-how. This product would not be expected to be different from GF/CuPh but could capitalize from the clinical experience of others with TNBP products.

1.3 MAb/TNBP – a high specific activity product which might bridge the gap should rFVIII be further delayed. It could capitalize on our FVIII purification know-how but would present complex patent problems.

To summarize specific recommendations of this group:

1. [redacted] actively our GF/CuPh program.

2. No specific recommendation is made regarding which back-up product to pursue because, for this, the input of marketing is crucial. We recommend another meeting with appropriate Marketing representation to address these issues.

3. *Although a back-up TNBP product may be desirable for strategic marketing considerations, Koate-HS should be positioned as the safest product currently available.*

MMM:ejh