

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MASSACHUSETTS**

AMGEN, INC.,

Plaintiff,

v.

F. HOFFMANN-LA ROCHE, LTD.,  
ROCHE DIAGNOSTICS GMBH, and  
HOFFMANN-LA ROCHE, INC.

Defendants.

Civil Action No. 05-cv-12237 WGY

**REDACTED**

**CONTAINS RESTRICTED ACCESS  
BLA/IND CONFIDENTIAL  
INFORMATION**

**SUBJECT TO PROTECTIVE ORDER**

**NON-INFRINGEMENT EXPERT REPORT OF RICHARD A. FLAVELL, PH.D.**

**REDACTED**

134. In addition, host cells of the asserted process claims all specify the use of “mammalian host cells” or “vertebrate cells” for the production of a “glycosylated erythropoietin polypeptide” or “erythropoietin.” It is possible to use non-mammalian, non-vertebrate host cells to produce the products of the claimed process, however. For example, Hamilton *et al.* describe the creation of yeast cells that express and secrete glycoproteins having human-like glycosylation patterns.<sup>175</sup> These yeast cells could be transformed or transfected with a DNA sequence encoding human erythropoietin to produce a glycosylated erythropoietin polypeptide according to the claims. Importantly, these cells were capable of expressing and secreting a polypeptide with terminal sialic acids intact.<sup>176</sup> In fact, using human erythropoietin as an example of “heavily glycosylated

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<sup>175</sup> Hamilton, S.R., et al. (2006) *Science*, 313: 1441-43.

<sup>176</sup> *Id.* The authors refer to this last step as the “the most complex step of human N-glycosylation.”

protein,” the authors showed that biologically active human erythropoietin could be expressed in yeast cells.<sup>177</sup> These results demonstrate commercial viability because the work was done with several authors affiliated with Glyco-Fi, Inc. a biotechnology company now a wholly-owned subsidiary of Merck. Because yeast cells are neither vertebrate nor mammalian and, the limitations of the claimed process would not be met and would not infringe.

**REDACTED**

<sup>177</sup> *Id.*