Invitrogen
life technologies

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ATTENTION: Transmissible Spongiform Encephalopathy Advisory Committee

Invitrogen Corporation would respectfully like to offer the following comments for consideration by the TSE Advisory Committee at the meeting of February 12/13, 2004.

Invitrogen Corporation is a large global supplier of GIBCO brand cell culture media, animal sera, and reagents. Our animal sera; such as Fetal Bovine Serum, Newborn Calf Serum, and Donor Bovine Serum are used by many of the major Biopharmaceutical manufacturers as a critical supplement to the cell culture media used to grow the cells which produce the drug product.

Current FDA guidance (letter to manufacturers of biological products dated April 2000) asks Biopharmaceutical manufacturers not to use ruminant origin materials in their process if it comes from animals..."born, raised or slaughtered in countries where BSE is known to exist, or countries where the USDA has been unable to assure FDA that BSE does not exist."

With the discovery of cases of BSE in both Canada and the USA, Invitrogen believes a risk based approach should be considered in determining whether animal sera or other ruminant origin products from a particular country can be used in a Biopharmaceutical manufacturing process. Invitrogen believes USDA's proposed rule entitled "Bovine Spongiform Encephalopathy; Minimal Risk Regions and Importation of Commodities" provides a good starting point for identifying source countries for these ruminant origin materials. Of course suppliers would need to be able to produce a documented path back to the source.

In addition to a "safe" source, other risk factors such as what part of the animal is to be used in the process, the nature of the manufacturing process itself, and how the final product is to be used in humans could all be considered as part of the risk assessment. Regarding products such as animal serum, "The note for guidance on minimising the risk of transmitting animal spongiform encephalopathy agents via human and veterinary products," revision 2, issued by the European Agency for Medicine Evaluation states that

"blood" is a tissue of "lower infectivity." They also note that Fetal Bovine Serum is believed to contain "no detectable infectivity."

Invitrogen is concerned that if ruminant materials cannot be safely sourced from the USA for use by the Biopharmaceutical industry, then all end users will turn to Australia and New Zealand as their source of material. This may include not just the purely manufacturing aspects of the Biopharmaceutical industry but may well include the drug discovery phase, the research phase, cell banking and the clinical trial phases. It is difficult to predict exactly what the demand might be for Australian and New Zealand sourced material, but it is not difficult to believe that at least spot shortages of material would be created.

In particular, significant additional demands for bovine sera along with the normal vagaries of the beef industry such as global and local geographic issues and economic conditions, climatic variations in the beef producing areas, and farmers reactions to environmental and economic conditions regarding herd management could all collide resulting in shortages of critical raw materials needed by the Biopharmaceutical industry.

In addition, countries such as Japan have, for the moment, banned the import of USA sourced beef and are attempting to replace this beef with material sourced in Australia. Long-term, this shift of sourcing of beef could reduce the amount of serum available to the Biopharmaceutical industry.

In times of high demand and tight supply, prices will inevitably rise, hence one must also be concerned with the possibility of fraudulently labeled serum reaching the market.

Invitrogen thanks the committee for taking the time to review our thoughts and we are available at anytime should there be questions related to our industry.

Sincerely,

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