

To: Mr. Geno Gerano  
Group President  
Global Innovative Pharma Business  
Pfizer  
235 East 42nd Street  
New York, NY 10017

Dear Mr. Gerano,

**Re: Are Conjugated Equine Estrogens vital to effective Hormone Replacement Therapy?**

THE HORSE FUND is an equine advocacy organization working globally to promote the health, safety and welfare of equines. One of our focus issues is the gathering of pregnant mare's urine to produce conjugated equine estrogen (CEE) for the manufacture of the Premarin® family of drugs and the impact this has on the mares and foals.

In these days of cutting-edge genetic and bio-engineering, we question whether the use of pregnant mares' urine (PMU) is a genuine necessity.

As you can appreciate, the use of CEEs in the treatment of menopausal symptoms and osteoporosis is controversial and subject to criticism from a health perspective. Yet Pfizer continues to market these drugs despite the fact that CEE-derived medications such as Premarin® and Prempro® are listed as "known human carcinogens" by the National Toxicology Program as well as the World Health Organization.

At the same time, amid much speculation, the recent FDA approval of the combined menopausal-osteoporosis drug Duavee®, formerly known as Aprela®, is a clear indication that Pfizer will continue its crusade without sufficient studies to validate this drug's efficacy from a safety aspect.

This is most unsettling particularly since the osteoporosis component – bazedoxifene - has yet to receive FDA approval due to increased risks of deep vein thrombosis, pulmonary embolism, and retinal vein thrombosis. Even more worrisome are the boxed warnings that Duavee® carries with it – identical to those of the Premarin® family of drugs – an admission of sorts that its safety profile is in question.

Moreover, it is widely known that in spite of the reduction in North American PMU farming contracts, the practice of collecting pregnant mare's urine is now sustained in other countries such as China, for example. Prior to this, motivation behind the decline was unequivocally cited as a direct consequence of the decrease in demand for Premarin® and its derivatives. With 2013 profits of over 1 billion USD for these CEE-based drugs and projected increases with the addition of Duavee® to offset patent losses this is obviously not the case. We question whether Duavee® will be yet another dangerous drug that has been rushed to market to turn profits at the expense of patients just like its predecessors.

March 2015

Given the great achievements of the pharmaceutical industry over the last few decades, we wonder why an industry giant such as Pfizer, self-described as "the world's largest research-based pharmaceutical company", is not using the most innovative and state-of-the-art methodology in developing safer and more effective drugs, but instead persists with decades-old technology that relies on the increasingly unpopular and detrimental use of animals.

As leaders of the pharmaceutical industry, you are unquestionably aware of viable alternatives to the use of CEEs in treating menopausal symptoms and osteoporosis. It is common knowledge that genetic engineering currently enables scientists to synthesize natural hormones found in the human body. Through recombinant DNA techniques, bacteria have been created that are capable of manufacturing human insulin, human interferon, human growth hormone, and human follicle-stimulating hormone (FSH) for example – why not estrogens? E. Coli may lack the basic machinery required for steroid synthesis but the literature indicates that there are other host micro-organisms that function to bring about hydroxylation, a critical step in the synthesis of steroids with effective biological activity.

Overall drugs containing CEEs are not well tolerated by the human body and pose serious cancer and cardiovascular risks among others. The manufacture of exact replicas of human estrogens using this technology would not only serve to reduce some of the uncertainties associated with the risks of HRT but also resolve issues related to negative press releases, class-action lawsuits and animal rights advocates concerned with drug safety and animal abuse. Consumers are more cynical than ever before, seeking safe and ethically produced goods.

Clearly our motive is to end the use of pregnant mare's urine in drugs and the cruelties we perceive inherent to it. This communication is not intended to open a debate on that issue, but instead to invite you to eliminate the use of CEEs in the production of your pharmaceuticals, and replace it with an innovative technology. This would surely satisfy not only our purposes, but also yours with the benefit of drug efficacy and safety for those who choose to use them.

Please feel free to contact us to discuss this issue further.

Yours faithfully,



Vivian Grant Farrell  
Founding President  
THE HORSE FUND  
Email: [vivian@horsefund.org](mailto:vivian@horsefund.org)  
Phone: (502) 384-7830



Jane Allin  
Research Director  
THE HORSE FUND  
Email: [janea@horsefund.org](mailto:janea@horsefund.org)  
Phone: (502) 384-7830

March 2015