MEMORANDUM

Date: July 25, 2002
From: Dr. Julia Oxford, Biochemical Consultant
To: Sharon F. Kleyne, Founder and Chairman
Subject: **Water Research**

What is Tissue-Culture Grade Water?

By Julia Oxford, Ph.D.

Tissue-culture grade water is high-grade water with no impurities or contaminants. To be considered tissue-culture grade, the water is tested for its ability to support cell growth and maintenance in the laboratory when used to reconstitute cell growth medium. The pH of tissue-culture grade water should be between 5.7 and 7.0. Inorganic minerals, essential for cell growth, must be presenting minute quantities.

Organic matter is absent from tissue-culture grade water. This includes natural and man-made organic molecules such as proteins, pesticides, herbicides, tannins and detergents, all of which could interfere with cell and tissue cultures. Microorganisms such as bacteria, viruses and algae are absent, as are organic breakdown products. The water is of low toxicity and endotoxin free.

Dr. Julia Oxford is a Professor of Cellular Biology at Boise State University and a Biochemical Consultant for Bio-Logic Aqua Technologies.