

## Replacing cell culture cytotoxicity and animal toxicity tests with precise diagnosis of bioplasm

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### **Abstract**

Currently animal toxicity test is replaced by cell culture cytotoxicity. The process of cultivating cell cultures requires fetal bovine serum, and acquisition of fetal bovine serum is harmful to the fetal bovine and hence is opposed by animal activist, furthermore, during the process of transferring the technology to the supplier, big scale suppliers might be able to accept but to small-scaled suppliers, it is a heavy burden. Hence we hope that from the cell culture cytotoxicity, we continue to innovate from the principles of the cell culture cytotoxicity, a more beneficial application technology for the suppliers. We invented liquefied cell membrane and cellular composition. Since irritating toxicity in cosmetics mainly causes damage to cellular constituents in the eyes and skin, therefore shall the subject substance is detected to cause the bioplasma compositions to become murky, then the subject substance would damage the eye and skin cellular composition. Sensitivity on the murkiness triggered by damages caused by alcohol to bioplasma will increase with alcohol concentration; light-absorption value increases with bioplasma in murky state of 405nm, demonstrates an obvious dose-dependency and correlation between both is high, regression coefficient being  $R=0.978$ , hence show that bioplasma may smartly and correctly detect changes in chemicals. Even with animal experiments that has great variation, increase in alcohol concentration that will cause MAS value that measures damages to rabbit eyes to also increase, regression coefficient being  $R=0.896$ . This technique is so far the first in Asia developed successfully by Taiwan to eliminate the brutal base of animals. The development of bioplasma may largely reduce the safety experiments done on animals, and has high economic benefits; the test cost is only 1/30 ~1/100 of that of animal experiment costs and thus may greatly reduce the cost of cosmetic development and elevate the industry's global competition.

Keywords: cytotoxicity, bioplasm, animal toxicity