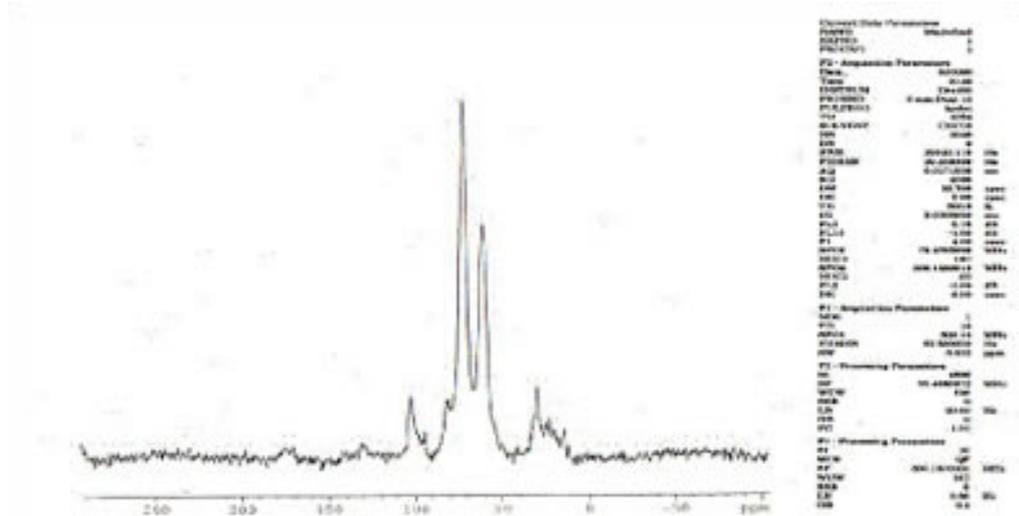


Cellular PSP is the trademark of ingredients containing a unique functional and cellular food formulation of nutrients that are essential for bodily functions. Cellular PSP contains all of these naturally derived nutrients in a bioavailable form:

- **Polysaccharide** - Available as biological fuel for cellular energy
- **Polypeptide** - Amino Acids available in the right quantity and ratios to be used as raw materials to the cells to perform their functions effectively and promote cellular renewal
- **Natural Vitamins and Minerals** - As raw materials for cellular enzyme production and overall function
- **Phytonutrients** - provide cofactors for cellular processes

## Cellular PSP Ultra-Structure



**Studies by:** Solid State Cross Polarization Magnetic Angle Spinning (CP/MAS) C-NMR (Nuclear Magnetic Resonance) Spectroscopy.

Mechanically Hydrolyzed Polysaccharides and Peptides

Cellular PSP is a biologic phytochemical. It can be classified as a non-dialyzable high molecular weight polysaccharide with low molecular weight poly-peptides.

The molecular weights of the different compounds range from 150 to 300kDa. A major chemical feature of these Polysaccharides and Peptides is the presence

of linkage of D-glucose units in the main chain.

## Cellular PSP Under Scanning Electron Microscopy (SEM)

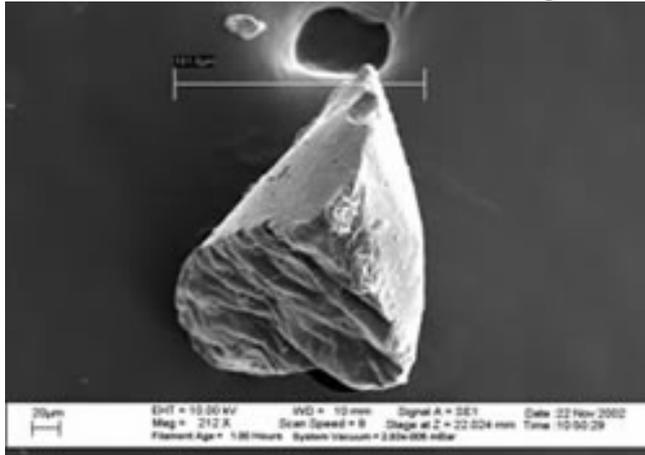


Fig. 1 Atypical Molecular Pyramid-like Structure, average size 200-300 microns with one-sided fiber-like surface

### Safety Report

Cellular PSP is hypoallergenic and has no known side effects. It contains no dairy, wheat, sugar, chemicals, fillers, binders, artificial colors, artificial flavors, additives, or preservatives and it contains no genetically modified organisms (non-GMO).

### In-Vitro Study

#### In-Vitro Alzheimer Model Study with Neuroblastoma Cells (Sawatsri et al.)

**Conclusions and Discussion:** In-Vitro studies of neuroblastoma (neuron cells) showed 100% cell death and severe damage of dendrites when neurotoxins were induced. However, when the neuroblastoma (neuron cells) were pretreated with the Cellular PSP, in-vitro studies showed different levels of cell survival and apparent recovery of dendrites from the neurotoxin injuries within 48 hours.

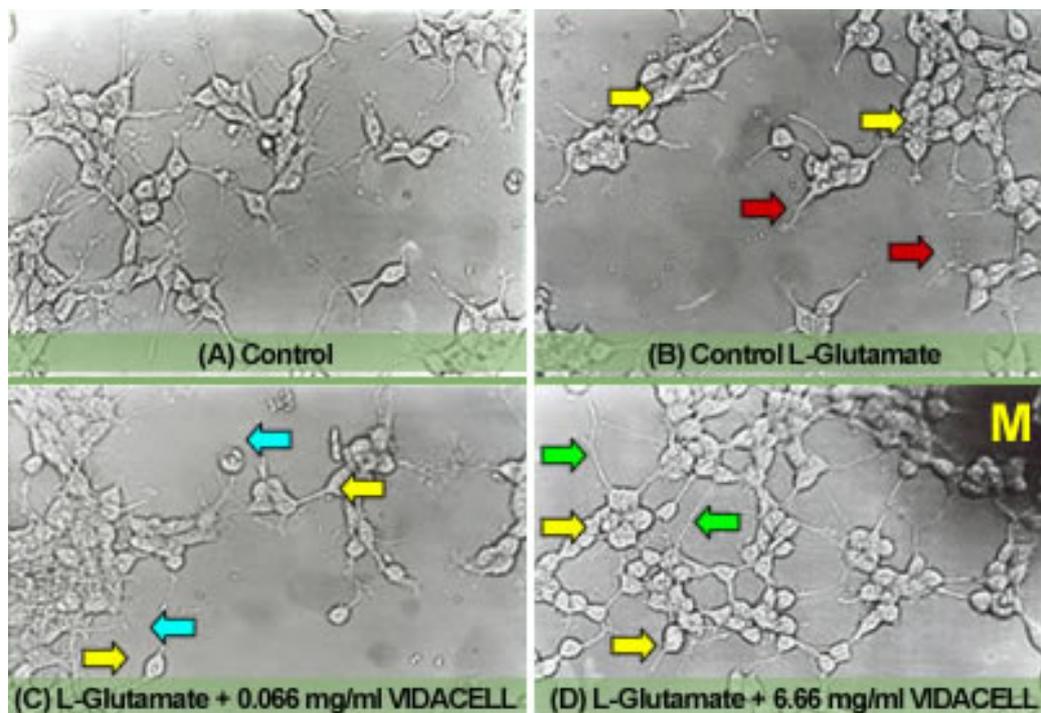


Figure: Serving dependent of Cellular PSP against glutamate-induced toxicity to cells and dendrites, A. LA-N-5 under control conditions appear healthy (cytoplasm and neuronal processes). B. LA-N-5 exposed to 0.2 mM Glutamate after 24 h. display shrunken cell bodies and degeneration of neuronal process. C. LA-N-5 grow in the presence of 0.066 mg/ml Cellular PSP for 2 days prior to exposure to 0.2 mM Glutamate after 24 h display exhibit clear features of neuronal viability for cell bodies and clearly defined neuronal process similar to those of control neurons not treated with 0.2 mM Glutamate. D. similar C but if increased serving Cellular PSP to 6.66 mg/ml, showed neuronal viability and neuronal process obviously similar with control (C compare B, D compare B). X 400

### Conducted By:

Royal Thai Army Medical Center, PMK Research Center and, Emory University School of Medicine, Atlanta, Georgia; USA

### Medical Doctors and Scientific Advisors:

**Researcher:** Col. Sayan Sawatsri, M.D.; Clinical Associate Professor of Gynecology and Obstetrics, Emory University School of Medicine, Atlanta, GA, USA. Director of the Div. of Family Planning OB-GYN Dept.; Pharamongkutklao Hospital and College of Medicine, Bangkok, Thailand

**Advisors:** Wanphen Yumkhunthong, M.Sc. Prof. Neil Sidell, Ph.D., Somchai Boonchuen, DVM, Dipl. Functional Medicine, Col. Chalernporn Boonsiri, M.D. and Col. Nirundorn Pidet, M.D.

### In-Vitro Study

### **In-Vitro Mitochondria Cellular Viability/Energy Study (Sawatsri et al.)**

**Conclusions and Discussion:** Cellular PSP showed dose dependent for neuroprotective effect in AD model and 1:100 Cellular PSP demonstrated the optimal effect with a significant increase of ATP in mitochondria metabolism of about 54% when compared with control.

#### **Conducted By:**

Royal Thai Army Medical Center, PMK Research Center and, Emory University School of Medicine, Atlanta, Georgia; USA

#### **Medical Doctors and Scientific Advisors:**

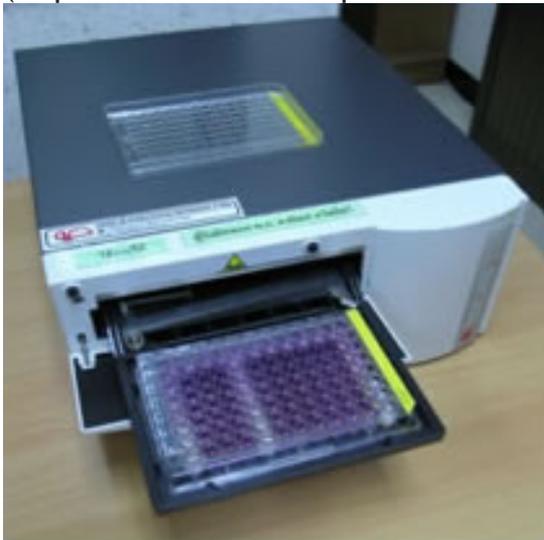
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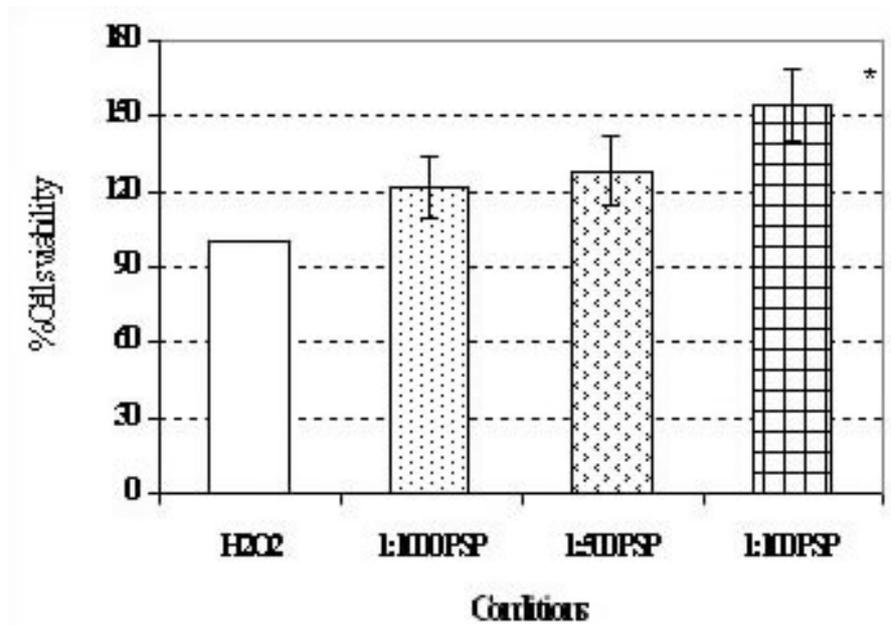
#### **Full Research In-Vitro Study:**

### **Neuroprotective Effect of PSP02 in Cell Line Models of Alzheimer's disease**

(In particular the ATP production in mitochondria metabolism)



Colorimetric MTT (Tetrazolium) Assay



\* p < 0.05 Figure 1.

Neuroprotective effect of 0.033, 0.066, and 0.33 mg/ml a-PSP02 (1:1000, 1:500, 1:100x) on LA-N5 that was induced by a 20 min. exposure to 30  $\mu$ M H<sub>2</sub>O<sub>2</sub> (hydrogen peroxide-induced toxicity). The highest percentage of cells viability was 54.5% as estimated by colorimetric MTT (Tetrazolium) Assay. The values represent mean + SEM of at least three separate experiments, each performed in triplicate, p < 0.05 compared with control group.

**Statistical analysis:** Data was analyzed using Student's t-test for measuring the cells viability of experimental groups compared with control groups.

**Discussion:** The percentage of cells viability of neuroblastoma cell at 0.33 mg/ml of a-PSP02 increased 54% as shown in Figure 1. A Student's t-test (two-tailed) was used to determine p-value of the experiment and showed that p-value was less than 0.05 (p < 0.05). It was found that the percentage of cells viability at 0.33 mg/ml a-PSP02 (experimental group) and a control group were significantly different. From the result it was shown that 0.33 mg/ml a-PSP02 can significantly survive from hydrogen peroxide-induced toxicity when compared with control group.

**Conclusion:** a-PSP02 showed dose dependent for neuroprotective effect in AD model and 1:100 PSP02 demonstrated the optimal effect with a significant increase of ATP in mitochondria metabolism of about 54% when compared with control.

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\* These statements have not been evaluated by the Food & Drug Administration. This product is not intended to diagnose, treat, cure or prevent any disease.