



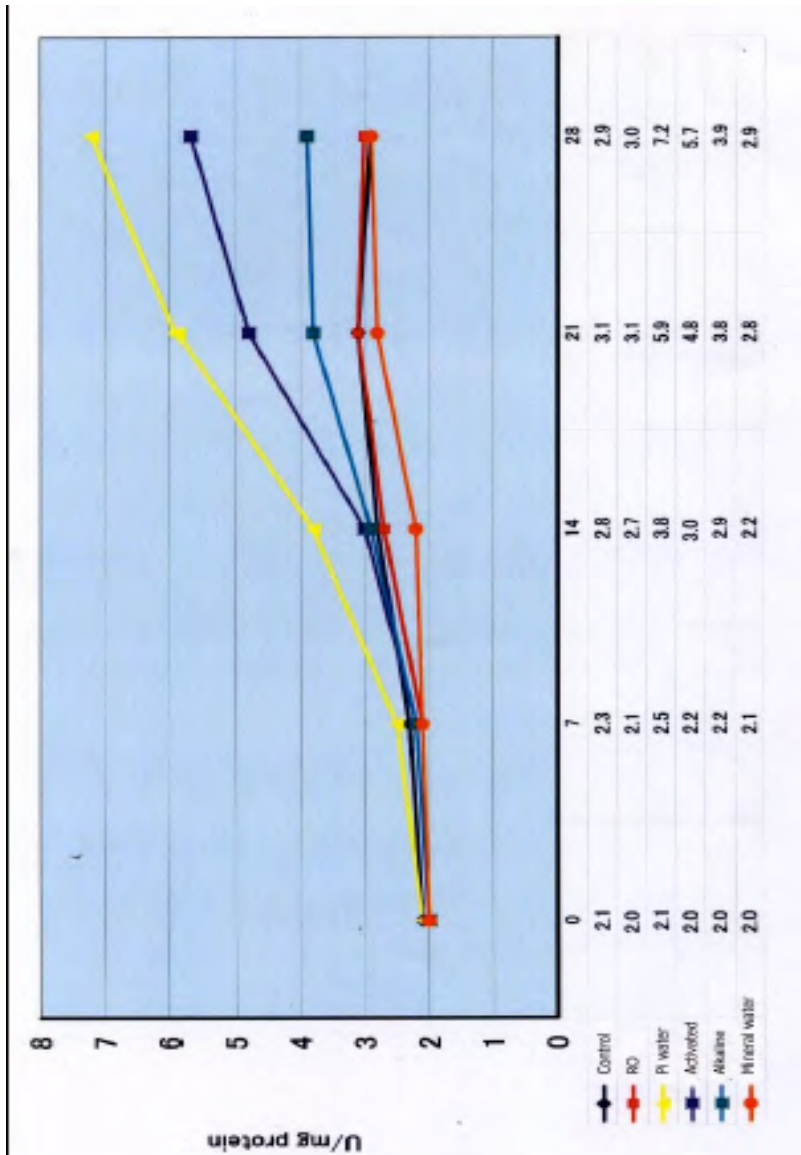
160/176 Silom Road, Bangrak, Bangkok 10500, Thailand

Tel. +66 2 237 6568 Fax. +66 2 237 2505

Ordinary Water is difficult to absorb because the molecule structure is bigger than the cell membrane

Our Water molecule structure is reorganized and can be easily and rapidly absorbed

Effect of Still water concerning SOD Activation



REPORT

ACM R & D Center

□ The effect of Still water concerning SOD Activation □

Active oxygen and SOD

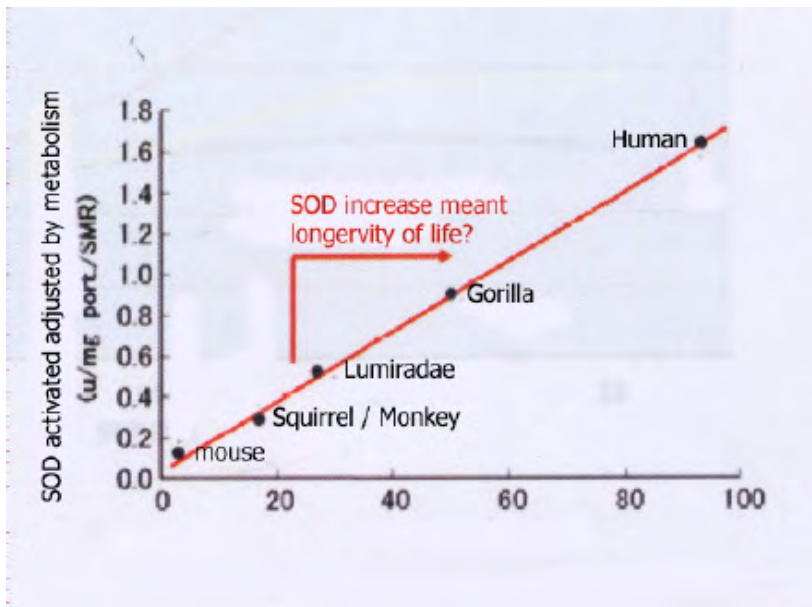
Active oxygen plays a major role in human, animals and plants by its function is to protect our body against foreign substances such as bacteria and viruses. When foreign substances enter our body; phagocyte in the blood will consume the substances present in the cells, dissolving them. "Active oxygen" will be produced to dissolve these bacteria or virus in the cells. It is very important to have active oxygen to maintain our health while phagocyte will continue to eat foreign bodies. Because active oxygen is a very powerful quantity, if the number presented are too great, this could have a negative effect on blood vessels or cells. To confront the issue, SOD enzyme is released by the body, in order to eliminate excess active oxygen to maintain the balance.

However, while the number of active oxygen is increasing because of deteriorated environment such as pollution, UV, food additives, fatigue or stress. It is very difficult maintain the balance between active oxygen and SOD enzyme. As SOD will vary according to individuals or ages, some people can harm their health. Excessive active oxygen can destroy even virus and harm blood vessels or cells. As it is unstable and easy to combine with other substances, for instance, it combines with fat and transforms into hydro peroxide which cause various diseases or symptoms.

Relation between longevity and SOD

Since an American research institution reported that there are proportional relationship between super oxide dismutase (SOD) activation and animal life's time, the world focus on SOD enzyme.

Many experts tried to increase volume of SOD in our but we cannot obtain explicit result for a moment we turn to substitute with consumption of SOD similar food which can act similarly to SOD.



SOD is the hero among anti-oxidants

Reaction Speed of SOD Active Oxygen is highly quicker than the Reaction Speed of Ascorbic acid & active oxygen while SOD has Active Oxygen Elimination power 8000-56,000 times higher than Ascorbic acid(Vitamin C). As Anti-oxidant vitamin being essential nutrient and α -lipoicacid having function to promote metabolism, SOD has function to eliminate active oxygen. SOD, differing from anti-oxidant vitamin or poly-phenol, will be induced where many active oxygen occurred and it shows strong activation in the organs with high oxide stress.

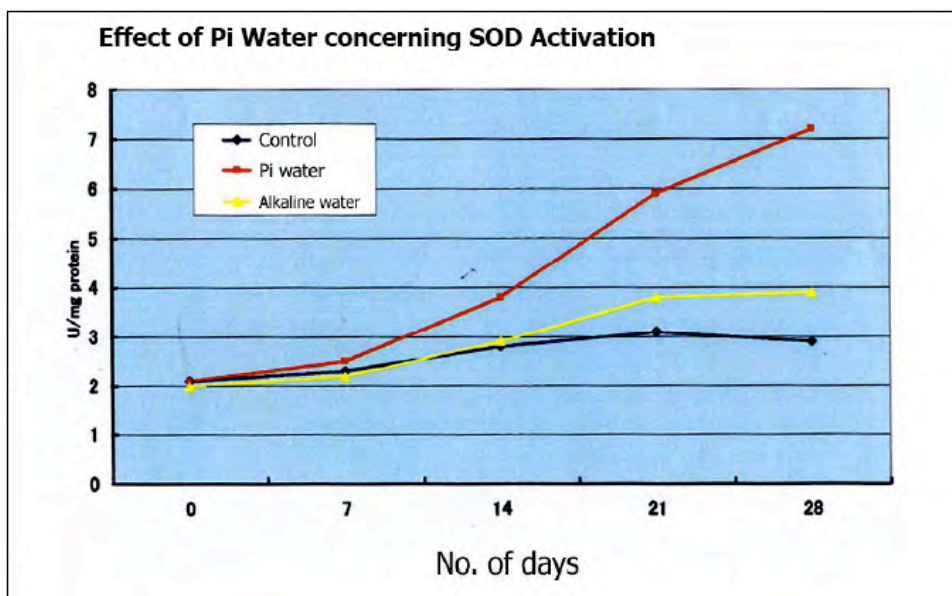
Effect of Still water drinking concerning SOD Activation

Experiment Method

We divided 6 weeks old mice (weight;25-30g) into 2 groups or the Still water drinking group and the contrast group and took care of them during 28 days. Mice is tested every 7 days to measure SOD activation in their livers. Each group contain 10 individuals and the contrast group did drink distilled water. We studied also the effect of alkaline water drinking.

Results

We can observe the remarkable increase of SOD activation in the Still water drinking group. The difference from the contrast group, became clear since 14th -21st day. The alkaline water drinking group could show also some increasing tendency.



Conclusion

We could observe the increasing tendency of SOD activation among the P2 Water drinking group according to the results of this experiment and it can suggest that there are efficient actions concerning oxidation in the body through active oxygen.

Analysis of Water using NMR(Nuclear Magnetic Resonance) Method

There is the "Water Cluster Theory". The cluster means water molecules assembly while it can measure the size water molecules through analysis measuring by NMR(Nuclear Magnetic Resonance). The Cluster theory states that there are different sizes of water molecules assembly according to the state of water and indicates that smaller sizes are water of a higher quality. This evaluation method is interested worldwide and considered as a trial of water quality evaluation through physical index. This cluster theory considers that good and healthy water should coincide with small assembly water tested by NMR.

The water evaluation method in this time, can judge the size of water molecule assembly(Cluster) by FWHM of the peak. We think that emitted energy might have influence on numbers of water molecules around when such energy return back to the original state from the excited state. If there are many water molecules, the peak width will be more enlarged while there are small molecules groups, the peak width will be smaller and the energy emission will be smooth. We express it as numbers using Hertz(Hz) as unit and we say smaller value mean small cluster. In any case it is certain that when we operate water one way or another, FWHM will be surely changed. As the measuring result of P2 Water also gave small FWHM. P2 Water is healthy and good water with excellent taste,

we can accept that this evaluation method is understanding. If we use one of evaluation methods, P2 Water will be considered as good quality water or so-called healthy and excellent taste water. However we need more researches and studies to justify the Cluster Theory as the evaluation method for water quality. Even it is not yet admitted properly as scientific evaluation method, we are convinced that Cluster change will give some influence on water. We will continue to test many factors to establish NMR Evaluation Method and to determine the evaluation of P2 Water.

Keiko AKADA Chief of the Research Institute of ACM CO., LTD

• Nuclear NMR Spectrum •

