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### REGULAR ARTICLES

## Studies on the Properties and Real Existence of Aqueous Solution Systems that are Assumed to Have Antioxidant Activities by the Action of “Active Hydrogen”

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### 抄録

We evaluated the properties and real existence of an electrolyzed-reduced water, which we prepared, and three commercially purchased water goods, that are advertised to have antioxidant activities by the action of “active hydrogen,” on the basis of the results of examinations for inhibitory effects on the oxidative reactions of biomolecules, quantitative analyses of the minerals, and the ESR spectral data in measurement of the scavenging ability for reactive oxygen species. The results suggested that all of the examined aqueous solution systems undoubtedly have antioxidant activities *in vitro* and that such effects are derived from ordinary molecular hydrogen (hydrogen gas) and/or (a) reductive vanadium ion(s). “Active hydrogen” seems to be absent as an effective component of the antioxidant activities of these aqueous solution systems.

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