

Total antioxidant and biological activity of nanodispersed silica from thermal waters of Kamchatka

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Abstract

The property of nanodispersed silica from the separates of hydrothermal heat-carriers of Mutnovskaya geothermal power plant, as well as thermal waters of Kamchatka and their concentrates to display antioxidant activity the volume of which depends on their origin and the content of silica has been revealed. The total antioxidant activity can also be influenced by the presence of cations of metals of variable valency: iron, manganese, copper, etc., the content of which in different thermal sources can widely vary. Structurization of intracellular water by nano-particles of silica, shown on the example of cyanobacteriae, leads to the appearance of new properties of biological substances – the increased stability to temperature.