Characterization of Halophilic archaea thioredoxin

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Halobacterium salinarum, the extremely halophilic archaeon, grows in the environment containing more than 25% NaCl[1]. The enzymes and proteins from this archaea organism have thus been adapted to be active and stable in the hyper-salt and hyper-oxidation stress condition. Among these enzymes, thioredoxin, a family of redox proteins, is a small ubiquitous protein that participates in various intracellular redox reactions. It has known to act as hydrogen donor for various reductive enzymes, H_2O_2 reducer and free radicals scavenger. Therefore, it has strong possibility as a cosmeceutical material or skin regeneration material. To analyze the antioxidant activity of Archaeon Thioredoxin (ArcTRX), we tested the reduction activity on the insulin disulfide bond in various condition (pH, temperature, salt concentration)[2]. and then we tested the tyrosinase inhibition activity to show the possibility as a cosmeceutical material.

References

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