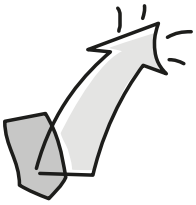

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Thiol status (Sulfhydryl status assay)

Serum thiols reflect DNA repair capacity

Oxidative stress, or the production of oxygen-centered free radicals, has been hypothesized as the major source of DNA damage that in turn can lead to altered genetic expression, disease, and aging of humans.

Serum protein thiol levels in blood are a direct measure of the in vivo reduction/oxidation (redox) status in humans, because thiols react readily with oxygen-containing free radicals to form disulfides. Moreover, serum thiols also reflect DNA repair capacity and the possible eventual accumulation of genetic damage, since a key DNA repair enzyme, poly ADP-ribose polymerase (PARP), is thiol/disulfide redox regulated.

Serum protein thiols can possibly be used to estimate individual aging status. Data from Banne et al. (2003) strongly confirm an important role of oxidative stress in human disease development, and identify serum thiol status as a potential biochemical endpoint useful in the assessment of aging.

Advantages:

- Simple methodology
- Short incubation (30 min)
- Requires only 20 µl as a sample volume
- Available as microtiter plate assay or for cuvettes
- Determination of protein-bound and free thiols

Thiol status (Sulfhydryl status)	
Matrix	Serum, plasma, urine, synovia
Sample volume	20 µL
Test principle	photometric
Cat. No.	K 1800

Literature

Banne AF et al. (2003) Reduced level of serum thiols in patients with a diagnosis of active disease. Anti Aging Med 6: 327-34

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