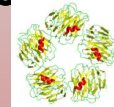




Serum Amyloid P protein is elevated in CSF in Alzheimer's disease

Serum amyloid P (SAP) ELISA

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Serum amyloid P (SAP): an acute phase protein

- SAP is a pentameric protein of ~25 kDa per subunit
- Together with C-reactive protein, SAP belongs to the family of short pentraxins
- SAP is produced by hepatocytes upon inflammatory stimulus with IL-1
- SAP is an evolutionary conserved protein
- SAP is an extremely stable protein in body fluids
- Serum amyloid P is the identical serum form of amyloid P, a major constituent of *in vivo* pathological amyloid deposits

Physiological SAP concentrations

- Normal concentration
 - Serum ⇒ 30-40 µg/ml (women lower than men)
 - Urine ⇒ ng/ml
 - CSF ⇒ 8.5 ng/ml
- Patient concentrations
 - CSF ⇒ 32.4 ng/ml (Alzheimer's disease)
- Suggested sample dilutions:
 - Serum / plasma at least 1000x
 - Urine 3x -200x (for high amounts of SAP)
 - CSF at least 2x
 - Sputum at least 40x

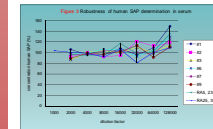
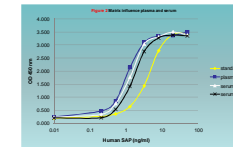
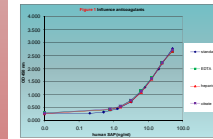


Figure legends:

- Figure 1 No influence of anticoagulant was detected on the measurement of human SAP
- Figure 2 No matrix influence observed in serum and plasma
- Figure 3 There is broad dilution range (2000-20000x) for reliable measurement of human SAP in serum

Pathophysiological role of SAP

- SAP levels in CSF are elevated in patients suffering from Alzheimer's disease
- SAP is present in neurofibrillary tangles and β-amyloid plaques in Alzheimer's disease
- CPHPC can be used to lower the levels of SAP
- Amyloid P is present in deposits in systemic and cerebral amyloidosis
- SAP levels are slightly increased in active chronic diseases
- Significantly low levels of SAP are only seen in patients with severe hepatocellular impairment which reduces plasma protein synthesis

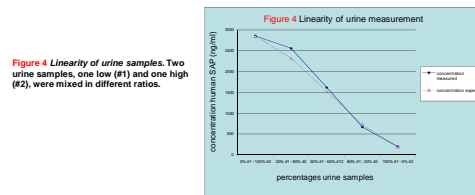


Figure 4 Linearity of urine samples. Two urine samples, one low (#1) and one high (#2), were mixed in different ratios.

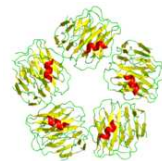


Figure 5 Pentameric structure of serum amyloid P

Characteristics SAP ELISA kit (HK331)

- Detection limit: 0.2 ng/ml
- Detection range: 0.2 - 50 ng/ml
- Working time of 3.5 hours
- No cross reactivity with:
 - Human SAA and CRP
- Useful for detection in serum, plasma, urine, sputum, and CSF