

Recent advances and future prospects for the use of acute phase proteins as markers of disease in animals

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Acute phase proteins such as haptoglobin, serum amyloid A and C-reactive protein are plasma proteins which increase in concentration following infection, inflammation or trauma.

Investigations over the last decade have shown that the quantification of their concentration in plasma or serum can provide valuable diagnostic information in the detection, prognosis and monitoring of disease. Species differences in the acute phase protein response profile mean that each species should be examined individually and that immunoassays for the proteins should be carefully validated before use. Acute phase protein analysis is becoming a common procedure in clinical and experimental investigations of infectious disease in farm and companion animals.

Assessment of the concentration of major and moderate acute phase proteins provides a means to estimate the combined effect of the pro-inflammatory cytokine stimulation of systemic functions.

In the future, measurement of these proteins could have further applications in the identification of diseased animals at slaughter and for monitoring the presence of sub-clinical disease leading to poor growth rates on farms. These applications will be facilitated by current developments in diagnostic biotechnology. Future prospects for investigation of the acute phase proteins in companion animals include assessment of the effects of the acute phase response on the pharmacokinetics of veterinary drugs and on association between sub-clinical levels of the proteins and chronic diseases. **Keywords :** acute phase proteins - haptoglobin - serum amyloid A - immunoassay - infection - meat inspection - cattle - pigs - dogs - cat.

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