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THE TRUE CHEMICAL BASIS OF THE A1 AND A2 PHENOTYPES

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**Background:** The literature identifies the glycolipid chemical difference between the A1 and A2 phenotypes as being the absence of A type 3 and A type 4 antigen on A2 cells.

**Aims:** To re-examine the glycolipid chemical basis of A1 and A2 phenotypes (and other subgroups) and determine the contribution of A type 3 and A type 4 antigen to these phenotypes.

**Methods:** Purified glycolipids extracted from individual blood units or pools of the A1 or A2 (and various subgroups) were subjected to thin layer chromatography and antibody overlay analysis. A large range of characterised antibodies were used including those used in the original publications. Serological and immunochemical analysis of anti-A1 is in progress.

**Results:** The A type 3 antigen was found to be present in A1, A2 and weak subgroups of A which is in contrast with the accepted understanding that it is an 'A1-antigen'. In contrast A type 4 antigen appeared to be restricted to the A1 phenotype and thus may represent the true 'A1-antigen'.

**Conclusions:** The A type 4 antigen and not the A type 3 antigen is the major glycolipid basis of the A1 phenotype. lola.svensson@clinchem.gu.se or kiwi@aut.ac.nz (Steve Henry)