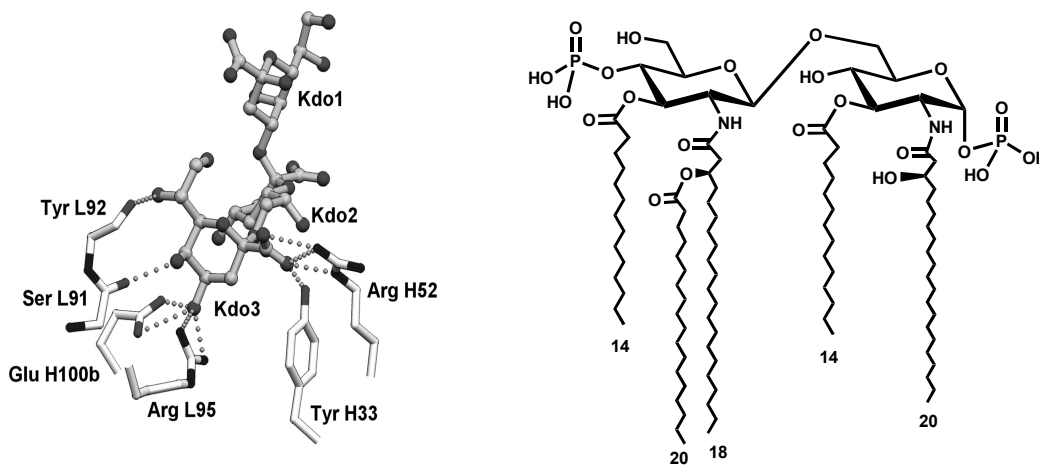


SYNTHESIS AND ANTIBODY RECOGNITION OF CHLAMYDIAL GLYCOLIPID ANTIGENS

Paul Kosma^{1*}, Alla Zamyatina¹, Stephen V. Evans², Helmut Brade³

¹Depart. of Chemistry, BOKU, A-1190 Vienna, Austria, ²Dept. of Biochemistry & Microbiology, Univ. Victoria, BC, Canada, ³Research Center Borstel, Germany
paul.kosma@boku.ac.at

Chlamydiae are obligatory intracellular microbial pathogens, which are responsible for numerous chronic and acute infections in animals and humans [1]. Chlamydiae share a common group-specific carbohydrate epitope being composed of the linear trisaccharide α Kdo(2 \rightarrow 8) α Kdo(2 \rightarrow 4) α Kdo. In addition, species-specific epitopes have been reported for *Chl. psittaci* as a α Kdo(2 \rightarrow 4) α Kdo(2 \rightarrow 4) α Kdo trisaccharide and the branched tetrasaccharide α Kdo(2 \rightarrow 8)[α Kdo(2 \rightarrow 4)] α Kdo(2 \rightarrow 4) α Kdo. These ligands have been synthesized as allyl glycosides, converted into neoglycoconjugates and used for the generation and characterization of monoclonal antibodies. Crystal structures of the free Fab-fragments and complexed to the respective ligands reveal ionic interactions of the Kdo carboxylic groups to basic amino acid side chains as major factors determining the binding specificity of cross-reactive and specific antibodies, respectively [2]. In addition, two major chlamydial lipid A tetra- and pentaacyl species comprising 3-(*R*)-hydroxyicosanoic acid residues have been synthesized and tested for their endotoxic properties [3,4].



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