

Session 2: Plenary II

Monday 7th November 2011. Moderator: Zdenka K. Jonak

[11.00–11.30]

‘Cytotoxic activity of natural human antibodies’

Mark C. Glassy

IMSA, San Diego, CA, USA

Abstract not provided.

[11.30–12.00]

‘Surface IgM of CLL cells displays unusual glycans indicative of engagement of antigen in vivo’

Kathy M. Potter

University of Southampton, Southampton, UK

Surface IgM (sIgM) has a key influence on the clinical behavior of chronic lymphocytic leukemia (CLL). We now report that it exists in 2 forms with different N-glycosylation patterns in the mu-constant region. One glycoform is similar to normal B cells in bearing mature complex glycans common to most cell-surface glycoproteins. The other is an immature mannosylated form more characteristic of mu chains in the endoplasmic reticulum. Unmutated CLL (U-CLL) expresses a higher proportion of mannosylated surface mu chains than mutated CLL. Normal B cells express only the mature glycoform but can express the immature form after persistent engagement of sIgM, suggesting that glycan modification is a consequence of antigen exposure. CLL cells express variable proportions of the mannosylated form and can revert to the mature form after

incubation in vitro. Both glycoforms are able to signal after sIgM engagement in vitro, leading to enhanced tyrosine phosphorylation. These findings support the concept that CLL cells are continuously exposed to antigen in vivo, driving the N-glycosylation pattern of expressed sIgM toward a mannosylated form, especially in U-CLL. Strikingly, this is reminiscent of follicular lymphoma, where mannosylated Ig is expressed constitutively via N-glycosylation sites in the variable region, suggesting a functional asset for this glycoform. *Blood*. 2010 May 27;115(21):4198-205.

[12.00–12.30]

‘Synthetic antibodies for probing cell signalling’

Sachdev Sidhu

University of Toronto, Ontario, Canada

Abstract not provided.

[12.30–13.00]

‘E. coli periplasmic expression of Fab’ fragments at 2-5g/l’

David P. Humphreys

UCB-New Medicines, Slough, UK

Abstract not provided.