

Letter to the Editor

Expression of the FMC7 Antigen in Cases of B-Lymphoproliferative Diseases

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WE HAVE read with interest the recent paper of Drexler *et al.* [1]. In a larger analysis including 318 patients—15 null, common or pre-B acute lymphoblastic leukaemia (ALL) cases; 3 B-ALL; 2 Burkitt lymphomas; 172 B-chronic lymphocytic leukaemias (B-CLL); 5 prolymphocytic leukaemias (B-PLL); 11 hairy cell leukaemias (HCL); 61 B-lymphomas; 12 Waldstrom macroglobulinaemias (WM); and 38 multiple myeloma (MM) patients—we did not completely agree regarding the results shown by Drexler *et al.* with the FMC7 monoclonal antibody (McAb).

In B-CLL we observed a lower reactivity (20% of positive cases), similar to that reported in other series [2, 3]. Moreover, the expression of the FMC7 McAb correlated ($P < 0.001$) with the degree of B-cell differentiation assessed by the surface immunoglobulin (sIg) heavy chain isotype (5%, 23%, 34% and 45% of FMC7-positive cases in the sIg-negative, μ^+ , $\mu^+\delta^+$ and other isotype groups, respectively).
In addition, a lower expression of the FMC7 antigen was observed in the B-lymphomas. Nevertheless the histopathologic type of lymphoma was not reported to ascertain the real degree of discrepancy. Finally, the 3 B-ALL cases included were FMC7-negative. In this sense, our results suggest that this McAb defines a differentiation antigen that is negative in the more immature stages of B-

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Table 1. Analysis of FMC7 antigen expression

Disease	No. positive cases/studied cases (% positive cases)		Percentage positive cells (mean \pm S.D.)
Null/common/pre-B-ALL	0/15	(0%)	
B-ALL	0/3	(0%)	
Burkitt lymphoma	1/2	(50%)	84
B-CLL	34/172	(20%)	49 \pm 16
B-PLL	5/5	(100%)	62 \pm 17
HCL	11/11	(100%)	74 \pm 10
WM	8/11	(73%)	44 \pm 15
MM	0/38	(0%)	

Positive cases: $> 10\%$ of positive cells.
*Results expressed as mean \pm S.D. of reactive cells in the positive cases.

cell differentiation (common ALL, pre-B ALL, B-ALL); it displays a weak reactivity in B-CLL and becomes strongly positive in B-PLL, HCL and WM, and is again negative in the last step of B-cell maturation—the plasma cell [4]. The findings

of Zola *et al.* [5] regarding the relationship between the FMC7 McAb and the receptor for the late-acting B-cell differentiation factor would support such a hypothesis.

REFERENCES

1. Drexler HG, Menon M, Gaedick G, Minowada J. Expression of FMC7 antigen and tartrate-resistant acid phosphatase isoenzyme in cases of B-lymphoproliferative diseases. *Eur J Cancer Clin Oncol* 1987, **23**, 61–68.
2. Melo JV, Catovsky D, Galton DAG. The relationship between chronic lymphocytic leukaemia and prolymphocytic leukaemia. I. Clinical and laboratory features of 300 patients and characterization of an intermediate group. *Br J Haematol* 1986, **63**, 377–387.
3. Ottolander GJ, Schuit H, Waayer J, Huibregtsen L, Hijmans W, Jansen J. Chronic B-cell leukemias: relation between morphological and immunological features. *Clin Immunol Immunopathol* 1985, **35**, 92–102.
4. San Miguel JF, Caballero MD, Gonzalez M, Zola H, Lopez Borrascas A. Immunological phenotype of neoplasms involving the B-cell in the last step of differentiation. *Br J Haematol* 1986, **62**, 75–83.
5. Zola H, Moore HA, Hofmann A. The antigen of mature human B-cells detected by the monoclonal antibody FMC7: studies on the nature of the antigen and modulation of its expression. *J Immunol* 1984, **133**, 321–326.