

[Abstract 54]

HIGH LEVELS OF SOLUBLE IMMUNOREGULATORY RECEPTORS IN PATIENTS WITH WALDENSTROM'S MACROGLOBULINEMIA.

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CD25, CD27, CD30 and CD40 are receptors for IL-2, CD70, CD153 and CD154, respectively, which provide important signaling for both B- and T-cell immune responses. We therefore examined the sera of patients with Waldenstrom's macroglobulinemia (WM), a B-cell disorder characterized by excess IgM secreting bone marrow lymphoplasmacytic cells (LPC) for the presence of soluble CD25, CD27, CD30, CD40, IL-2, CD153, and CD154. Sera were from patients with active disease and off-therapy. Sera from healthy age matched donors (HD) was used for controls. The results of these studies were as follows:

	p-value	WM ELISA Results			HD ELISA Results		
		n=	median	range	n=	median	range
sCD25 pg/ml	2.647x10 ⁻⁶	41	3418.99	3-19756.2	20	573.6	184.96-891.03
IL-2 pg/ml	0.72385	41	22.96	3-76.83	20	11.07	5.64-64.7
sCD27 U/ml	2.4727x10 ⁻⁷	26	7.45	0-19.42	10	0	0-2.78
sCD70	ND	ND	ND	ND	ND	ND	ND
sCD30 U/ml	0.00088	25	89.25	0-550.81	15	39.12	0-135.25
sCD153 ng/ml	0.68388	25	8.18	0-43.8	15	5.65	0-24.82
sCD40 pg/ml	0.02484	25	101.39	11.76-584.99	11	50.73	0-150.5
sCD154 pg/ml	0.81317	55	949.58	92-4973.16	17	1078.03	351.88-2323.38

Considering our recent studies demonstrating a role for mast cells (MC) in supporting WM cell growth (JCO 2004 22:571S), we examined bone marrow LPC along with MC from WM patients for expression of CD25, CD27 and CD40 and/or their ligands by flow cytometry and RT-PCR analysis. The results of these studies are as follows:

	Flow Cytometry		RT-PCR	
	WM	MC	WM	MC
CD25	4/10 (40%)	2/7 (29%)	7/9 (78%)	7/15 (47%)
IL-2	ND	ND	ND	ND
CD27	5/12 (42%)	2/8 (25%)	7/7 (100%)	4/7 (57%)
CD70	6/6 (100%)	10/11 (91%)	7/7 (100%)	2/7 (29%)
CD30	1/21 (4.7%)	ND	ND	ND
CD153	3/7 (43%)	12/13 (92%)	2/2 (100%)	9/11 (82%)
CD40	25/30 (83%)	ND	ND	ND
CD154	2/3 (67%)	9/13 (69%)	7/9 (78%)	ND

The above studies demonstrate high levels of circulating immunoregulatory receptors, and expression of these receptors and/or their ligands on WM tumor and mast cells. Studies addressing their role in immune dysregulation in WM are underway.