

Table 3. Clonogenic cells in plastic-adherent and nonadherent PBMNC fractions from CML patients in stable chronic phase. BCR/ABL-positive over total number of colonies as analyzed by FISH.

Patient No.	Clonogenic assay with unseparated PBMNC; BCR/ABL-positive colonies over total No. tested			Clonogenic assay with adherent PBMNC; BCR/ABL-positive colonies over total No. tested			Clonogenic assay with nonadherent PBMNC; BCR/ABL-positive colonies over total No. tested		
	All colonies	GEMM/GM	BFU-E/CFU-E	All colonies	GEMM/GM	BFU-E/CFU-E	All colonies	GEMM/GM	BFU-E/CFU-E
10	2/3	1/2	1/1	4/5	0/1	4/4	4/4	4/4	-
4	-	-	-	-	-	-	1/1	-	1/1
	5/6	1/1	4/5	5/6	0/1	5/5	-	-	-
	2/2	1/1	1/1	3/5	0/1	3/4	5/9	1/2	4/7
9	2/5	2/3	0/2	1/3	1/3	-	4/6	1/2	3/4
7	4/5	4/5	-	1/2	1/2	-	2/3	2/3	-
3	2/4	-	2/4	-	-	-	3/6	0/1	3/5
	1/2	-	1/2	-	-	-	0/3	-	0/3
6	3/3	-	3/3	4/4	1/1	3/3	2/3	-	2/3
	2/7	2/6	0/1	7/8	5/6	2/2	4/10	2/5	2/5
	6/13	6/11	0/2	3/4	3/4	-	0/4	0/2	0/2
	7/11	2/5	5/6	7/8	7/8	-	6/8	4/4	2/4
5	2/3	1/1	1/2	1/1	-	1/1	-	-	-
	-	-	-	8/10	5/5	3/5	1/1	-	1/1
Total:	38/64	20/35	18/29	44/56	23/32	21/24	32/58	14/23	18/35
Percentage BCR/ABL+	58.5	58.3	62.1	78.6	71.9	87.5	55.2	60.9	51.4

Table 4. Proportion of plastic-adherent and nonadherent PBMNC from CML patients at diagnosis. Colony formation by separated cell populations*.

Patient No.	PBMNC x 10 ⁶ isolated/ml blood	Adherent cells x 10 ⁴ /10 ⁶ PBMNC = %	Nonadherent cells x 10 ⁴ /10 ⁶ PBMNC = %	Loss by cell death in %	No. of colonies/10 ⁶ unseparated MNC	No. of colonies/10 ⁶ adherent MNC	No. of colonies/10 ⁶ nonadherent MNC
11	103.33	4.84	27.08	68.1	6800	533	8889
12	84.75	3.69	42.75	53.6	956	67	1000
13	105.70	8.75	46.92	44.3	542	20	756
14	79.80	8.83	21.92	69.3	1333	93	1455
15	147.00	5.58	28.17	66.2	378	22	156
mean	104.12	6.34	33.37	60.3	2002	147	2451
median	103.33	5.58	28.17	66.2	956	67	1000
minimum	79.80	3.69	21.92	44.3	378	20	156
maximum	147	8.83	46.92	69.3	6800	533	8889

*Comparison of the data by the Student's t-test showed a significant difference with the data concerning the colonies derived from adherent MNC, not with those derived from unseparated or nonadherent MNC (data presented in Table 5).

the CFC concerned. Although the number of colonies analyzed is not very high, we can assume on the basis of our results that BCR/ABL-positive and negative CFC are present in both granulocyte-macrophage (GM) and erythroid committed cell lineages. Furthermore, the GM and erythroid lineage-commitment precursors are also present in either of the fractions, irrespective of CML or normal blood origin. Our previous studies (Schultheis et al., 1997; Pasternak et al., 1999) had already shown that

BCR/ABL-positive long-term culture initiating cells (LTC-IC) in the peripheral blood of IFN-treated patients may survive 35 days long-term culture on BM stromal cells. In this regard certain CML LTC-IC are also indistinguishable from their normal counterparts.

The present data show that plastic adherence, which selects CFC at a later stage of differentiation as compared with LTC-IC, does not give preference to normal progenitor cells. Although the number of CFC differs

Table 5. Proportion of plastic-adherent and nonadherent BM cells from healthy control persons. Colony formation by separated cell populations.

Control persons	MNC x 10 ⁶ isolated/ml BM	Adherent cells x 10 ⁴ /10 ⁶ MNC = %	Nonadherent cells x 10 ⁴ /10 ⁶ MNC = %	Loss by cell death	No. of colonies/10 ⁶ unseparated MNC	No. of colonies/10 ⁶ adherent MNC	No. of colonies/10 ⁶ nonadherent MNC
12	10.99	24.58	46.88	28.5	2055	1444	1400
13	7.83	6.49	48.44	45.1	1544	322	2089
14	8.60	9.68	58.33	32.0	1344	244	911
15	7.16	16.45	23.95	59.6	2227	778	1944
16	8.63	5.83	55.22	39.0	922	100	722
17	3.09	6.99	64.58	28.4	1544	456	1544
18	8.44	4.68	49.00	46.3	1233	344	1067
mean	7.82	10.67	49.49	39.8	1553	527	1382
median	8.44	6.99	49.00	39.0	1544	344	1400
minimum	3.09	4.68	23.95	28.4	922	100	722
maximum	10.99	24.58	64.58	59.6	2227	1444	2089

*Comparison of the data by the Student's t-test showed a significant difference with the data concerning the colonies derived from adherent MNC, not with those derived from unseparated or nonadherent MNC (data presented in Table 4).

Table 6. Clonogenic cells in plastic-adherent and nonadherent PBMNC fractions from CML patients in acceleration or blast crisis. BCR/ABL-positive over total number of colonies as analyzed by FISH.

Patient No.	Clonogenic assay with unseparated PBMNC; BCR/ABL-positive colonies over total No. tested			Clonogenic assay with adherent PBMNC; BCR/ABL-positive colonies over total No. tested			Clonogenic assay with nonadherent PBMNC; BCR/ABL-positive colonies over total No. tested		
	All colonies	GEMM/GM	BFU-E/CFU-E	All colonies	GEMM/GM	BFU-E/CFU-E	All colonies	GEMM/GM	BFU-E/CFU-E
17	6/6	4/4	2/2	-	-	-	-	-	-
	6/6	5/5	1/1	9/9	7/7	2/2	5/5	5/5	-
18	1/1	1/1	-	3/3	1/1	2/2	-	-	-
	6/7	2/2	4/5	6/6	-	6/6	6/6	2/2	4/4
	18/18	6/6	12/12	4/4	1/1	3/3	3/3	1/1	2/2
Total	37/38	18/8	19/20	22/22	9/9	13/13	14/14	8/8	6/6
Percentage BCR/ABL ⁺	97.4			100			100		

Table 7. Proportion of plastic-adherent and nonadherent PBMNC cells from CML patients in acceleration or blast crisis. Colony formation by separated cell populations*.

Patient No.	MNC x 10 ⁶ isolated/ml BM	Adherent cells x 10 ⁴ /10 ⁶ MNC = %	Nonadherent cells x 10 ⁴ /10 ⁶ MNC = %	Loss by cell death	No. of colonies/10 ⁶ unseparated MNC	No. of colonies/10 ⁶ adherent MNC	No. of colonies/10 ⁶ nonadherent MNC
16	3.50	2.35	69.02	28.6	1138	1218	916
	1.50	3.25	32.50	64.2	193	308	118
17	2.49	4.23	21.77	74.0	63	213	44
	4.12	7.10	44.00	48.9	75	101	159
	7.36	5.83	15.83	78.3	164	432	66
18	10.96	1.09	32.29	66.6	33	8	22
mean	4.99	3.98	35.90	60.1	278	380	221
median	3.81	3.74	32.40	65.4	120	261	92
minimum	1.50	1.09	15.83	28.6	33	8	22
maximum	10.96	7.10	69.02	78.3	1138	1218	916

*Comparison of the data by the Student's t-test showed no significant difference with the data presented in Table 1.