

## DISTRIBUTION OF Bf AND C3 TYPES IN TUSCANY (ITALY)

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Bf and C3 serum polymorphisms have not been extensively investigated until now in Italy and they are not routinely used in paternity testing in our Country.

This paper is a contribution to a better knowledge of distribution of these system in continental Italy.

### Material and methods

Serum samples were obtained, respectively, from 1000 and 650 unrelated healthy blood donors from Pisa Hospital Blood Bank (Tuscany, Italy). The specimens were subjected to C3 and Bf type determination within 2-3 days.

The phenotypes were determined by means of high voltage electrophoresis, following the methods described by Teisberg (1970) for C3 and by Dykes and Polesky (1976) for Bf, with minor modifications.

### Results and discussion

Tables 1 and 2 show the distribution of Bf and C3 phenotypes, respectively, among 1000 and 650 individuals from Tuscany. The gene frequencies are the following: C3\*S .8031, C3\*F .1954, C3\*Rare .0015; Bf\*S .7130, Bf\*F .2495, Bf\*S0.7 .0245, Bf.F1 .0130. There is a good agreement between the observed and the expected frequencies of phenotypes, assuming Hardy-Weinberg equilibrium.

No significant difference between Tuscan and other Italian populations (Scacchi et al., 1979) were found, with regard to C3 system (table 3). On the contrary, a highly significant difference exists between continental Italy (included Tuscany) and Sardinia (table 4), as previously reported by Malavasi et al. (1981) and by Davrinche et al. (1984).

### References

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TABLE 1: Bf distribution in Tuscany

phenotypes	observed		expected	
	n	%	n	%
S	518	51.8	508.37	50.84
F-S	340	34.0	355.79	35.58
F	68	6.8	62.25	6.23
S-S0.7	37	3.7	34.94	3.49
S-F1	13	1.3	18.54	1.85
F-S0.7	12	1.2	12.22	1.22
F-F1	11	1.1	6.49	0.65
Others	1	0.1	1.40	0.14
	1000	100.0	1000.00	100.00

Bf\*S .7130 Bf\*F .2495 Bf\*S0.7 .0245 Bf\*F1 .0130

Chi square 6.443 for 4 df (P .20-.10)

TABLE 2: C3 distribution in Tuscany

phenotypes	observed		expected	
	n	%	n	%
S	418	64.31	419.23	64.50
F-S	206	31.69	204.00	31.38
F	24	3.69	24.82	3.82
Others	2	0.31	1.95	0.30
	650	100.00	650.00	100.00

C3\*S .8031 C3\*F .1954 C3\*Rare .0015

Chi square 0.0514 for 1 df (P .90-.80)

TABLE 3: C3 gene frequencies in different parts of Italy

	n	S	F	Rare	ref
Tuscany	650	.803	.195	.002	-
Abruzzo	252	.817	.179	.004	4
Lazio	325	.791	.203	.006	4

TABLE 4: Bf gene frequencies in different parts of Italy

	n	S	F	S0.7	F1	ref
North-Western	191	.746	.237	.010	.007	3
North-Eastern	128	.785	.180	.016	.019	3
Central	123	.679	.280	.033	.008	3
Tuscany	1000	.713	.250	.024	.013	-
Southern	165	.715	.258	.018	.009	3
Sicily	79	.728	.228	.019	.025	3
Sardinia	139	.446	.295	.043	.216	3
Sardinia	217	.578	.219	.005	.198	1
Italy	62	.718	.250	.024	.008	5