

NATIONAL COUNCIL ON RADIATION PROTECTION AND MEASUREMENTS
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TO: Holders of NCRP Report No.96 entitled Comparative Carcinogenicity of
Ionizing Radiation and Chemicals

Tables 7.5 and 7.6 to NCRP Report No. 96 were omitted from the printing of the report. The attached sheet, containing these tables, is to be inserted at page 90 of the report.

TABLE 7.5—Quantitative systems for studying early carcinogen-induced changes in cell culture: fibroblast systems

Species of origin	Source of cells	Cell line or strain	Ploidy	* Phenotype scored	Time of scoring (post-treatment)	Units of quantitation	Development of tumorigenic potential	Comments	References
rat	kidney cortex	primary strain	n.s.	colonies of morphologically altered cells	3-7 weeks	colonies/cells seeded	n.s.	treatment <i>in vivo</i>	Boylard and Hard, 1974
rabbit	bladder	primary strain	n.s.	colonies of morphologically altered cells	3-6 weeks	% positive dishes	yes		Summerhayes <i>et al.</i> , 1981
mouse	submandibular gland	primary strain	n.s.	colonies of morphologically altered cells	10-14 weeks	% positive explants	yes	explant cultures	Wigley, 1979
mouse	epidermis	primary strain	n.s.	focal proliferation in differentiation inducing medium	6-9 weeks	% positive dishes	not after 8 passages	high cell density cultures; selection imposed at ≥ 3 weeks	Kulesz-Martin <i>et al.</i> , 1980
mouse	epidermis	early passage strain	n.s.	clonal proliferation in differentiation inducing medium	7-9 weeks	frequency of altered cells	n.s.		Kulesz-Martin <i>et al.</i> , 1981
mouse	epidermis	primary strain	n.s.	foci of proliferating cells	3 months (visible at 6-8 weeks)	% positive dishes	yes	high cell density cultures	Ananthaswamy and Kri, 1981
rat	liver	early passage strain	diploid	dense colonies of morphologically altered cells	6-8 weeks	% total colonies altered	yes		Borenfreund <i>et al.</i> , 1975
rat	trachea	primary strain	n.s.	foci of proliferating cells with high cell density	3-4 weeks	foci/dish	n.s.	line formation also measured	Pai <i>et al.</i> , 1983
rat	trachea	primary strain	diploid	colonies of proliferating cells under selective conditions	4-6 weeks	colonies/colony forming cell surviving treatment	n.s.	selection (nonpermissive for normal cells) imposed 1-7 days post-treatment	Barrett <i>et al.</i> , 1982

TABLE 7.6—Quantitative systems for studying early carcinogen-induced changes in cell culture: epithelial cell systems

Species of origin	Source of cells	Cell line or strain	Ploidy	Phenotype scored	Time of scoring (post-treatment)	Units of quantitation	Development of tumorigenic potential	Comments	References
Syrian hamster (SHE cells)	embryos	early passage strain	diploid	colonies of morphologically altered cells	10 days	foci/total colonies	yes		Berwald & Sachs, 1965
Balb/c mouse (313 mouse)	embryos	line	aneuploid	colonies of morphologically altered cells	10 days	foci/total colonies	yes		DiPaolo <i>et al.</i> , 1972 Kakunana, 1978
C3H mouse (10T 1/2 cells)	embryos	line	subtetraploid	foci of cells at high density on monolayer	6 weeks	% positive dishes	yes		Reznikoff <i>et al.</i> , 1973
Syrian hamster (BHK cells)	kidneys	line	aneuploid	colony formation in semisolid medium	2-3 weeks	colonies/colony former	yes	preneoplastic	Bouck and DiMayorca, 1976 Styles, 1980
C3H mouse (B.1 prostate cells)	ventral prostate	line	aneuploid	colonies of morphologically altered cells	3-4 weeks	foci/total colonies	yes		Chen and Heidelberger, 1969
human	embryo	strain	diploid	colony formation in semisolid medium	3-4 weeks	colonies/total cells plated	not during experiment	transient nodule in nude mice	Freedman and Shin, 1977
human	embryo	strain	n.a.	colony formation in semisolid medium	3 weeks	plated colonies/dye excluding cells	n.a.		Sutherland <i>et al.</i> , 1980
human	foreskin	strain	n.a.	colony formation in semisolid medium	6-9 weeks	colonies/total cells plated	yes	cells subcultured 1-6 times before assay	Silinskas <i>et al.</i> , 1981