



Cell line:	HELA
DSMZ no.:	ACC 57
Species:	human (<i>Homo sapiens</i>)
Cell type:	cervix carcinoma
Origin:	established from the epitheloid cervix carcinoma of a 31-year-old black woman in 1951; later diagnosis changed to adenocarcinoma; first aneuploid, continuously cultured human cell line
Reference(s):	14926 , 14555 , 18012 , 18013
Depositor:	obtained from ATCC (CCL 2), Rockville, Maryland, USA
Biosafety level:	1
Risk assessment:	The cell line is infected with papilloma virus type 18 (HPV-18). The cells contain several copies as proviruses integrated into the eukaryotic genome. The integrated virus genomes are incomplete and exhibit 2-3 kb deletions of the E2-L2 region. An activation and transmission of the HPV-18 during handling of the cell line is improbable. The cell line is categorized biosafety level 1.
Permissions and restrictions:	A
DSMZ Cell Culture Data:	
Morphology:	epithelial-like cells growing in monolayers
Medium:	90% MEM (with Earle's salts) + 10% h.i. FBS + 2 mM L-glutamine + non-essential amino acids (cells also grow well in 90-95% RPMI 1640 + 5-10% h.i. FBS)
Subculture:	split confluent culture 1:4 to 1:6 every 3-5 days using trypsin/EDTA; cells reach confluence quickly; seed out at ca. $1-2 \times 10^6$ cells/80 cm ²
Incubation:	at 37 °C with 5% CO ₂
Doubling time:	ca. 48 hours
Harvest:	cell harvest of ca. $5-15 \times 10^6$ cells/175 cm ²
Storage:	frozen with 70% medium, 20% FBS, 10% DMSO at about 2.5×10^6 cells/ampoule
DSMZ Scientific Data:	
Mycoplasma:	negative in DAPI, microbiological culture, RNA hybridization, PCR assays
Immunology:	cytokeratin +, cytokeratin-7 +, cytokeratin-8 +, cytokeratin-17 +, cytokeratin-18 +, cytokeratin-19 +, desmin -, endothel -, EpCAM -, GFAP -, HMB-45 -, neurofilament -, vimentin +
Fingerprint:	multiplex PCR of minisatellite markers revealed a unique DNA profile

Species:	confirmed as human with IEF of G6PD, MDH, NP	
Cytogenetics:	human hypertriploid/hypotetraploid karyotype with 15% polyploidy - 82(77-84) $\lt;4n>XXX, -X, -2, -3, -4, +5, +5, +5, +5, -7, -8, -11, -13, -14, -15, -16, -17, -18, -19, -21, -22, +mar - der(1)t(1;3)(p11;q11), add(2)(q37), del(3)(q13), der(3)t(3;5)(q11;q11), i(5p)x4, del(6)(q15), der(9)t(1;9)(p11;p11), add(12)(q23), i(15q), der(19)t(13;19)(q22;p13)x1-2, add(21)(p11), del(?22)(q12)$	
Viruses:	ELISA: reverse transcriptase negative; PCR: EBV -, HBV -, HCV -, HHV-8 -, HIV -, HPV +, HTLV-I/II -, SMRV -	
Supplied as:	<u>Delivery form</u>	<u>Prices</u>
	Growing culture (please inquire for exact delivery time)	660,- €
	Frozen culture	330,- €
	DNA isolated from cell line (25 µg)	440,- €
	Cell pellet (10-20 x 10 ⁶ cells)	550,- €
	DNA isolated from cell line (5 µg)	100,- €
	<u>see price list</u>	

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