Data Sheet

BCRJ Code:	0404
Cell Line:	Kyse-30
Species:	Homo sapiens
Vulgar Name:	Human
Tissue:	Esophagus
Cell Type:	Polygonal
Morphology:	Epitheloid with long processes growing in monolayers
Disease:	Squamous Carcinoma
Growth Properties:	Adherent
Sex:	Male
Age/Ethinicity:	64 Year / Asian
Derivation:	KYSE-30 was established from the oesophageal cancer of an untreated 64 year old male. The tumour sample was taken from the mucosal surface of a well differentiated squamous cell carcinoma. The cell line KYSE-30 was established with the use of tumours initially transplanted to athymic mice. The cells are reported to have a doubling time of 20.8 hrs in the exponential growth phase. A p53 mutation at the splice acceptor site of intron 6 and a 12 fold amplification of c-erb B has been reported. KYSE-30 cells express a large number of epidermal growth factor receptors, 1.2x10,000,000 sites/cell.
Biosafety:	1
Culture Medium:	RPMI 1640 + Ham's F12 (1:1) + 2mM Glutamine + 2% Fetal Bovine Serum (FBS).
Subculturing:	Split sub-confluent cultures (70-80%) using 0.25% trypsin or trypsin/EDTA; 5% CO2; 37°C
Subculturing Medium Renewal:	Every 2-6 days
Subculturing Subcultivation Ratio:	1:10 i.e. seeding at 1x10,000 cells/cm²
Culture Conditions:	Atmosphere: air, 95%; carbon dioxide (CO2), 5% Temperature: 37°C
Cryopreservation:	95% FBS + 5% DMSO (Dimethyl sulfoxide)

Thawing Frozen Cells:	SAFETY PRECAUTION: It is strongly recommended to always wear protective gloves, clothing, and a full-face mask when handling frozen vials. Some vials may leak when submerged in liquid nitrogen, allowing nitrogen to slowly enter the vial. Upon thawing, the conversion of liquid nitrogen back to its gas phase may cause the vial to explode or eject its cap with significant force, creating flying debris. 1. Thaw the vial by gently agitating it in a 37°C water bath. To minimize contamination, keep the O-ring and cap out of the water. Thawing should be rapid (approximately 2 minutes). 2. Remove the vial from the water bath as soon as its contents are thawed and decontaminate it by dipping in or spraying with 70% ethanol. From this point, all operations must be performed under strict aseptic conditions. 3. For cells sensitive to DMSO, it is recommended to remove the cryoprotective agent immediately. Transfer the vial contents to a centrifuge tube containing 9.0 mL of complete culture medium and centrifuge at approximately 125 × g for 5 to 7 minutes. 4. Discard the supernatant and resuspend the cell pellet in the recommended complete medium (see specific batch information for the appropriate dilution ratio). 5. Incubate the culture under appropriate atmospheric and temperature conditions (see "Culture Conditions" for this cell line). NOTE: It is important to avoid excessive alkalinity of the medium during cell recovery. To minimize this risk, it is recommended to place the culture vessel containing the growth medium in the incubator for at least 15 minutes before adding the vial contents. This allows the medium to stabilize at its normal pH (7.0 to 7.6).

References:

Shimada Y, Imamura M, Wagata T, Yamaguchi N, Tobe T.1992 Characterization of 21 newly established esophageal cancer cell lines. Cancer. 69(2):277-84. Erratum in: Cancer 1992 70(1):206 PMID: 1728357. Int J Cancer 1994;58:291; Int J Cancer 1996;65:372; Arch Jpn Chir 1993;63(3):153-165. PubMed=1728357; DOI=10.1002/1097-0142(19920115)69:2<277::AID-CNCR2820690202>3.0.CO;2-C Shimada Y., Imamura M., Wagata T., Yamaguchi N., Tobe T. Characterization of 21 newly established esophageal cancer cell lines. Cancer 69:277-284(1992) PubMed=7913084; DOI=10.1002/ijc.2910580224 Kanda Y., Nishiyama Y., Shimada Y., Imamura M., Nomura H., Hiai H., Fukumoto M. Analysis of gene amplification and overexpression in human esophageal-carcinoma cell lines. Int. J. Cancer 58:291-297(1994) PubMed=8575860; DOI=10.1002/(SICI)1097-0215(19960126)65:3<372::AID-IJC16>3.0.CO;2-C Tanaka H., Shibagaki I., Shimada Y., Wagata T., Imamura M., Ishizaki K. Characterization of p53 gene mutations in esophageal squamous cell carcinoma cell lines: increased frequency and different spectrum of mutations from primary tumors. Int. J. Cancer 65:372-376(1996) PubMed=9033652; DOI=10.1002/(SICI)1097-0215(19970207)70:4<437::AID-IJC11>3.0.CO;2-C Tanaka H., Shimada Y., Imamura M., Shibagaki I., Ishizaki K. Multiple types of aberrations in the p16 (INK4a) and the p15(INK4b) genes in 30 esophageal squamous-cell-carcinoma cell lines. Int. J. Cancer 70:437-442(1997) PubMed=11092977; DOI=10.1111/j.1349-7006.2000.tb00895.x Pimkhaokham A., Shimada Y., Fukuda Y., Kurihara N., Imoto I., Yang Z.-Q., Imamura M., Nakamura Y., Amagasa T., Inazawa J. Nonrandom chromosomal imbalances in esophageal squamous cell carcinoma cell lines: possible involvement of the ATF3 and CENPF genes in the 1q32 amplicon. Jpn. J. Cancer Res. 91:1126-1133(2000) PubMed=11520067; DOI=10.1006/bbrc.2001.5400 Kan T., Shimada Y., Sato F., Maeda M., Kawabe A., Kaganoi J.-I., Itami A., Yamasaki S., Imamura M. Gene expression profiling in human esophageal cancers using cDNA microarray. Biochem. Biophys. Res. Commun. 286:792-801(2001) PubMed=12963126; DOI=10.1016/S0304-3835(03)00344-6 Hoque M.O., Begum S., Sommer M., Lee T., Trink B., Ratovitski E., Sidransky D. PUMA in head and neck cancer. Cancer Lett. 199:75-81(2003) PubMed=15172977; DOI=10.1158/0008-5472.CAN-04-0172 Sonoda I., Imoto I., Inoue J., Shibata T., Shimada Y., Chin K., Imamura M., Amagasa T., Gray J.W., Hirohashi S., Inazawa J. Frequent silencing of low density lipoprotein receptor-related protein 1B (LRP1B) expression by genetic and epigenetic mechanisms in esophageal squamous cell carcinoma. Cancer Res. 64:3741-3747(2004) PubMed=16045545; DOI=10.1111/j.0959-9673.2005.00431.x Ban S., Michikawa Y., Ishikawa K.-I., Sagara M., Watanabe K., Shimada Y., Inazawa J., Imai T. Radiation sensitivities of 31 human oesophageal squamous cell carcinoma cell lines. Int. J. Exp. Pathol. 86:231-240(2005) PubMed=16364037; DOI=10.1111/j.1442-2050.2006.00530.x Su M., Chin S.-F., Li X.-Y., Edwards P., Caldas C., Fitzgerald R.C. Comparative genomic hybridization of esophageal adenocarcinoma and squamous cell carcinoma cell lines. Dis. Esophagus 19:10-14(2006) PubMed=20215515; DOI=10.1158/0008-5472.CAN-09-3458 Rothenberg S.M., Mohapatra G., Rivera M.N., Winokur D., Greninger P., Nitta M., Sadow P.M., Sooriyakumar G., Brannigan B.W., Ulman M.J., Perera R.M., Wang R., Tam A., Ma X.-J., Erlander M., Sgroi D.C., Rocco J.W., Lingen M.W., Cohen E.E.W., Louis D.N., Settleman J., Haber D.A. A genome-wide screen for microdeletions reveals disruption of polarity complex genes in diverse human cancers. Cancer Res. 70:2158-2164(2010) PubMed=21191746; DOI=10.1007/s11684-010-0260-x Ji J.-F., Wu K., Wu M., Zhan Q.-M. p53 functional activation is independent of its genotype in five esophageal squamous cell carcinoma cell lines. Front. Med. China 4:412-418(2010) PubMed=22460905; DOI=10.1038/nature11003 Barretina J.G., Caponigro G., Stransky N., Venkatesan K., Margolin A.A., Kim S., Wilson C.J., Lehar J., Kryukov G.V., Sonkin D., Reddy A., Liu M., Murray L., Berger M.F., Monahan J.E., Morais P., Meltzer J., Korejwa A., Jane-Valbuena J., Mapa F.A., Thibault J., Bric-Furlong E., Raman P., Shipway A., Engels I.H., Cheng J., Yu G.K., Yu J., Aspesi P. Jr., de Silva M., Jagtap K., Jones M.D., Wang L., Hatton C., Palescandolo E., Gupta S., Mahan S., Sougnez C., Onofrio R.C., Liefeld T., MacConaill L.E., Winckler W., Reich M., Li N., Mesirov J.P., Gabriel S.B., Getz G., Ardlie K., Chan V., Myer V.E., Weber B.L., Porter J., Warmuth M., Finan P., Harris J.L., Meyerson M., Golub T.R., Morrissey M.P., Sellers W.R., Schlegel R., Garraway L.A. The Cancer Cell Line Encyclopedia enables predictive modelling of anticancer drug sensitivity. Nature 483:603-607(2012) PubMed=25984343; DOI=10.1038/sdata.2014.35 Cowley G.S., Weir B.A., Vazquez F., Tamayo P., Scott J.A., Rusin S., East-Seletsky A., Ali L.D., Gerath W.F.J., Pantel S.E., Lizotte P.H., Jiang G., Hsiao J., Tsherniak A., Dwinell E., Aoyama S., Okamoto M., Harrington W., Gelfand E., Green T.M., Tomko M.J., Gopal S., Wong T.C., Li H., Howell S., Stransky N., Liefeld T., Jang D., Bistline J., Hill Meyers B., Armstrong S.A., Anderson K.C., Stegmaier K., Reich M., Pellman D., Boehm J.S., Mesirov J.P., Golub T.R., Root D.E., Hahn W.C. Parallel genome-scale loss of function screens in 216 cancer cell lines for the identification of context-specific genetic dependencies. Sci. Data 1:140035-140035(2014) PubMed=25485619; DOI=10.1038/nbt.3080 Klijn C., Durinck S., Stawiski E.W., Haverty P.M., Jiang Z., Liu H., Degenhardt J., Mayba O., Gnad F., Liu J., Pau G., Reeder J., Cao Y., Mukhyala K., Selvaraj S.K., Yu M., Zynda G.J., Brauer M.J., Wu T.D., Gentleman R.C., Manning G., Yauch R.L., Bourgon R., Stokoe D., Modrusan Z., Neve R.M., de Sauvage F.J., Settleman J., Seshagiri S., Zhang Z. A comprehensive transcriptional portrait of human cancer cell lines. Nat. Biotechnol. 33:306-312(2015) PubMed=30894373; DOI=10.1158/0008-5472.CAN-18-2747 Dutil J., Chen Z., Monteiro A.N., Teer J.K., Eschrich S.A. An interactive resource to probe genetic diversity and estimated ancestry in cancer cell lines. Cancer Res. 79:1263-1273(2019) PubMed=31068700; DOI=10.1038/s41586-019-1186-3 Ghandi M., Huang F.W., Jane-Valbuena J., Kryukov G.V., Lo C.C., McDonald E.R. III, Barretina J., Gelfand E.T., Bielski C.M., Li H., Hu K., Andreev-Drakhlin A.Y., Kim J., Hess J.M., Haas B.J., Aguet F., Weir B.A., Rothberg M.V., Paolella B.R., Lawrence M.S., Akbani R., Lu Y., Tiv H.L., Gokhale P.C., de Weck A., Mansour A.A., Oh C., Shih J., Hadi K., Rosen Y., Bistline J., Venkatesan K., Reddy A., Sonkin D., Liu M., Lehar J., Korn J.M., Porter D.A., Jones M.D., Golji J., Caponigro G., Taylor J.E., Dunning C.M., Creech A.L., Warren A.C., McFarland J.M., Zamanighomi M., Kauffmann A., Stransky N., Imielinski M., Maruvka Y.E., Cherniack A.D., Tsherniak A., Vazquez F., Jaffe J.D., Lane A.A., Weinstock D.M., Johannessen C.M., Morrissey M.P., Stegmeier F., Schlegel R., Hahn W.C., Getz G., Mills G.B., Boehm J.S., Golub T.R., Garraway L.A., Sellers W.R. Next-generation characterization of the Cancer Cell Line Encyclopedia. Nature 569:503-508(2019) PubMed=31978347; DOI=10.1016/j.cell.2019.12.023 Nusinow D.P., Szpyt J., Ghandi M., Rose C.M., McDonald E.R. III, Kalocsay M., Jane-Valbuena J., Gelfand E., Schweppe D.K., Jedrychowski M., Golji J., Porter D.A., Rejtar T., Wang Y.K., Kryukov G.V., Stegmeier F., Erickson B.K., Garraway L.A., Sellers W.R., Gygi S.P. Quantitative proteomics of the Cancer Cell Line Encyclopedia. Cell 180:387-402.e16(2020)

Depositors: Olavo Bohrer Amaral-Universidade Federal do Rio de Janeiro

Cellosaurus: CVCL_1351