ERRATUM

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Erratum to: The UBC-40 Urothelial Bladder Cancer Cell Line Index: a genomic resource for functional studies

Julie Earl^{1,2}, Daniel Rico³, Enrique Carrillo-de-Santa-Pau¹, Benjamín Rodríguez-Santiago^{4,6}, Marinela Méndez-Pertuz¹, Herbert Auer⁷, Gonzalo Gómez⁸, H. Barton Grossman⁹, David G. Pisano⁸, Wolfgang A. Schulz¹⁰, Luis A. Pérez-Jurado^{5,6}, Alfredo Carrato², Dan Theodorescu¹¹, Stephen Chanock¹², Alfonso Valencia³ and Francisco X. Real^{1,5*}

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Following the publication of our recent article in BMC Genomics [1] a number of aspects were called to our attention. We have carefully reviewed the experiments reported in this manuscript, as well as additional data from our laboratories, and would like to make the following points:

- 1. SW-850, included in our paper as a bladder cancer cell line, has been reported by several authors to be a pancreatic cancer cell line [2–5]. This is unlikely to be the case given that most pancreatic cancers are *KRAS*-mutant and both our analysis and a previous publication [5] indicate that the cells used are *KRAS*-wild type. However, given the controversy we recommend that these cells are not be used as bladder cancer models.
- 2. The Materials and Methods section of our paper indicated that the following cell lines were obtained from ATCC: 253 J, 575A, 639 V, JON, MGH-U4, SW-800, SW-1710, VM-CUB-2. However, these cultures have never been distributed by the ATCC. Therefore, they are available from us if other investigators are interested in using them.
- 3. It has been reported that UM-UC-2 is a T24 contaminant (http://www.ncbi.nlm.nih.gov/biosample/

* Correspondence: preal@cnio.es

¹Epithelial Carcinogenesis Group, F BBVA Cancer Cell Biology Programme, CNIO (Spanish National Cancer Research Centre), Melchor Fernández Almagro, 3, 28029 Madrid, Spain

Full list of author information is available at the end of the article



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SAMN03151953 ,http://web.expasy.org/cellosaurus/ CVCL_8155, http://iclac.org/wp-content/uploads/ Cross-Contaminations-v7_2.pdf). We have used fingerprinting analysis to confirm this fact and the genetic identity of the cells/DNAs used in our experiments (Table 1).

4. It has been reported that VM-CUB-3 is a VM-CUB-1 contaminant (http://iclac.org/wp-content/uploads/ Cross-Contaminations-v7_2.pdf, http://www.ncbi.nlm.-nih.gov/biosample/3152040, http://web.expasy.org/cellosaurus/CVCL_9830). Nevertheless, our data indicate that the two cultures we used as VM-CUB-1 and VM-CUB-3 are distinct at the genomic level. Furthermore, as shown in Table 1, fingerprinting analysis clearly indicates that VM-CUB-1, VM-CUB-2, and VM-CUB-3 are different from each other. The origin of the DNA/ cells in our paper was as indicated in the Material and Methods section and, therefore, investigators interested in these cells could directly address the corresponding co-authors.

In the last few years there has been much emphasis on the need to accurately designate, identify, and characterize cancer cell lines as they are precious tools for cell biology studies [6, 7]. It is with this aim that we wish to make these comments and clarifications related to our recently published work.

⁵Departament de Ciències Experimentals i de la Salut, Universitat Pompeu Fabra, Barcelona, Spain

Table 1	SNP f	fingerpri	nt analysi:	s of the bladder	cancer cell line	s suffering	from an	"identity	crisis"
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Cell Line	Comments	D5S818	D13S317	D7S820	D16S539	VWA	TH01	AM	TPOX	CSF1PO
VM- CUB-1 p29		11	10	8,11	11,12	18,19	9	Х	8	11
VM-CUB-2 p112		11,13	12	8	9	14	7	X,Y	8,12	11,12
VM-CUB-3 p65		11	9,12	8,9	12	16	9.3	Х	8	12
UM-UC-2 p264	DNA fingerprinting data, same as T24	10,12	10,12	10,11	9	17	6	Х	8,11	10,12
T24 p8	ATCC	10,12	12	10,11	9	17,19	6	Х	8,11	10,12

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Competing interests

The authors declare no competing financial interests.

Author details

¹Epithelial Carcinogenesis Group, F BBVA Cancer Cell Biology Programme, CNIO (Spanish National Cancer Research Centre), Melchor Fernández Almagro, 3, 28029 Madrid, Spain. ²Servicio de Oncología Médica, Hospital Ramón y Cajal, Madrid, Spain. ³Structural Computational Biology Group, Structural Biology and Biocomputing Programme, CNIO (Spanish National Cancer Research Centre), Madrid, Spain. ⁴Quantitative Genomic Medicine Laboratory, qGenomics, Barcelona, Spain. ⁵Departament de Ciències Experimentals i de la Salut, Universitat Pompeu Fabra, Barcelona, Spain. ⁶Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER), Barcelona, Spain. ⁷Institut de Recerca Biomèdica de Barcelona, Parc Científic de Barcelona, Barcelona, Spain. ⁸Bioinformatics Unit, Structural Biology and Biocomputing Programme, CNIO (Spanish National Cancer Research Centre), Madrid, Spain. ⁹Department of Urology, MD Anderson Cancer Center, Houston, TX, USA. ¹⁰Department of Urology, Heinrich-Heine-University, Düsseldorf, Germany. ¹¹University of Colorado Comprehensive Cancer Center, Aurora, CO 80045, USA. ¹²Translational Genomics Laboratory, Division of Cancer Epidemiology and Genetics, National Cancer Institute, Bethesda, USA.

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References

- Earl J, Rico D, Carrillo-de-Santa-Pau E, Rodríguez-Santiago B, Méndez M, Auer H, et al. The UBC-40 Urothelial Bladder Cancer Cell Line Index: a genomic resource for functional studies. BMC Genomics. 2015;16:403.
- Fogh J, Fogh JM, Orfeo T. One hundred and twenty-seven cultured human tumor cell lines producing tumors in nude mice. J Natl Cancer Inst. 1977; 59(1):221–6.
- Fogh J, Wright WC, Loveless JD. Absence of HeLa cell contamination in 169 cell lines derived from human tumors. J Natl Cancer Inst. 1977;58(2):209–14.
- Kalthoff H, Schmiegel W, Roeder C, Kasche D, Schmidt A, Lauer G, et al. p53 and K-RAS alterations in pancreatic epithelial cell lesions. Oncogene. 1993; 8(2):289–98.
- Müller C, Bockhorn AG, Klusmeier S, Kiehl M, Roeder C, Kalthoff H, et al. Lovastatin inhibits proliferation of pancreatic cancer cell lines with mutant as well as with wild-type K-ras oncogene but has different effects on protein phosphorylation and induction of apoptosis. Int J Oncol. 1998;12(3):717–23.
- Freedman LP, Gibson MC, Ethier SP, Soule HR, Neve RM, Reid YA. Reproducibility: changing the policies and culture of cell line authentication. Nat Methods. 2015;12(6):493–7.
- Yu M, Selvaraj SK, Liang-Chu MM, Aghajani S, Busse M, Yuan J, et al. A resource for cell line authentication, annotation and quality control. Nature. 2015;520(7547):307–11.

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