Journal of
Cancer Science & Therapy

Brafford et al., J Cancer Sci Ther 2016, 8:5
DOI: 10.4172/1948-5956.1000401

Letter to Editor Open Access

1205Lu is Human Melanoma Depending on the Source

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1205Lu is a "work horse" melanoma cell line established in our laboratory at the Wistar Institute. It has been used in countless studies since its derivation in 1993 [1]. The cell line was generated by sequentially passaging the primary human melanoma cell line WM793 through immune deficient mice and harvesting lung metastases. The lungs from the fifth passage were cultured to establish the permanent cell line 1205Lu. Due to the many requests for melanoma cell lines and in an effort to facilitate distribution of the Wistar Melanoma Cell Lines, Coriell Institute of Medical Research (Camden, NJ) was contracted to grow and distribute our most popular melanoma cell lines including 1205Lu, which was submitted to Coriell in 2008. Before sending each cell line stock to Coriell, we tested for mycoplasma and short tandem repeat (STR) profile using AmpFlSTR® Identifiler® PCR Amplification Kit (Catalog Number 4322288) by Life Technologies.

Nair et al. in "1205Lu Human Metastatic Melanoma Cells, not Human" [2] show evidence of almost 80% mouse contamination in the 1205Lu sourced from Coriell. This is in contrast to a previous study using 1205Lu sourced from Wistar that was confirming the cell line to be of human origin by FACS analysis for human HLA class I and a panel of melanoma antigens [3]. In addition, our lab shows identical HLA typing of 1205Lu, WM793, and lymphocytes from the same patient [4].

Since 1205Lu has originally been passage through a mouse, there is a possibility for mouse cell contamination. To answer this question for the currently available stocks, we requested 1205Lu stock from Coriell after publication of the article by Nair et al. To assess mouse contamination, we used FACS analysis for human HLA (W6/32) and mouse (H-2Kd) MHC class I. Any contaminating mouse fibroblasts in the cell line culture would be positive for mouse MHC class I, whereas the human melanoma cell lines would be positive for human HLA class I. As a comparison, we included our Wistar stock of 1205Lu as well as the parental cell line WM793 (which was never passage through mice) (Figure 1). The 1205Lu line received from Coriell institute was predominantly contaminated with mouse cells evidenced by a high percentage of mouse MHC class I positive cells, whereas our own stock of 1205Lu had greater than 98% human cells as measured by FACS, similar to WM793. STR profiling of both 1205Lu and WM793 indicate that all are from the same source. Since STR profiling only detects the human component, the 1205Lu from Coriell does contain human cells as well as mouse cells. We conclude that the 1205Lu cell line distributed by Coriell is indeed not fully human, but that 1205Lu as established and distributed by our lab was and is fully human.

Our collection of 120 melanoma cell lines including 1205Lu is now available from Rockland Immunochemicals Inc (Limerick, PA; http://www.rockland-inc.com/patient-derived-tumor-models.aspx) for distribution. Rockland quality control procedures are outlined in detail on their website.

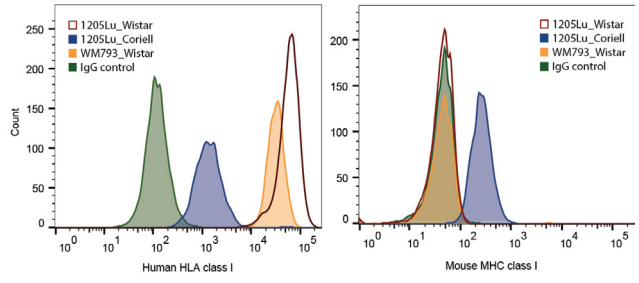

Figure 1: FACS analysis of 1205Lu cell line from Coriell and Wistar and WM793 parental cell line.

References

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Received May 06, 2016; **Accepted** May 20, 2016; **Published** May 23, 2016

Citation: Brafford P, Sproesser K, Krepler C, Herlyn M (2016) 1205Lu is Human Melanoma Depending on the Source. J Cancer Sci Ther 8: 113. doi:10.4172/1948-5956.1000401