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LETTER TO THE EDITOR

MDA-MB-435 cells are from melanoma, not from breast cancer

Marc Lacroix

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Abstract For years, MDA-MB-435 cells have been widely but erroneously used as breast cancer cells with aggressive behaviour. Recent data show that they are in fact melanoma cells. However, many scientists are still unaware of this "new" identity.

Keywords MDA-MB-435 cells · Breast cancer · Melanoma · Misidentification

Dear Editor,

Two articles from the journal of Cancer Chemotherapy and Pharmacology mention MDA-MB-435 cells as "breast cancer cells" [1, 2]. Unfortunately, these are melanoma cells [3]. The melanocytic nature of MDA-MB-435 cells was first suspected following microarray studies, where these cells were found to cluster with melanoma cells, rather than with other breast cancer cell lines [4]. Afterwards, MDA-MB-435 cells were found to express several genes commonly transcribed in melanocytes, such as RXRG, TYR, ACP5, and DCP, but which were not found in various commonly used breast cancer cell lines [5]. Expression of melanocyte proteins tyrosinase and melan-A by MDA-MB-435 cells was also shown [6]. MDA-MB-435 cells are in fact derived from the melanoma cell line M14, as shown by Rae et al. [7], on the basis of studies using karyotype, comparative genomic hybridization, and microsatellite polymorphism analyses, combined with bioinformatics analysis of gene expression and SNP data. The misidentification is likely to have occurred prior to 1982 and therefore, nearly all of the existing literature using the MDA-MB-435 cell line describes the M14 melanoma cell line, which has been far less studied under its true name.

M. Lacroix (✉)
InTextoResearch, 4, chemin de Hoevel,
B-4837 Baelen (Wallonia), Belgium
e-mail: ITR@iname.com

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