

Title (en)

DEVICES AND METHODS FOR SEPARATING CIRCULATING TUMOR CELLS FROM BIOLOGICAL SAMPLES

Title (de)

VORRICHTUNGEN UND VERFAHREN ZUR ABTRENnung VON ZIRKULIERENDEN TUMORZELLEN AUS BIOLOGISCHEN PROBEN

Title (fr)

DISPOSITIFS ET PROCÉDÉS POUR SÉPARER DES CELLULES TUMORALES CIRCULANTES D'ÉCHANTILLONS BIOLOGIQUES

Publication

EP 3669163 A4 20210811 (EN)

Application

EP 18841411 A 20180804

Priority

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Abstract (en)

[origin: WO2019028445A1] A variety of devices and methods are provided for separating or enriching circulating tumor cells in a biological sample such as whole blood. In some aspects, the devices are multi-stage devices including at least (i) a filtering stage, (ii) a sheath flow stage for ferrohydrodynamic separation of magnetically labelled white blood cells, and (iii) a focusing stage for markerindependent and size-independent focusing of magnetically labeled particles so as to separate or enrich unlabeled rare cells in the biological sample. The devices and methods are, in some aspects, capable of high throughput in excess of 6 milliliters per hour while achieving high separation (> 95%) of the unlabeled rare cells.

IPC 8 full level

G01N 3/00 (2006.01); **B01L 3/00** (2006.01); **G01N 15/10** (2006.01); **G01N 33/574** (2006.01)

CPC (source: EP)

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Citation (search report)

- [X1] US 2016244714 A1 20160825 - SPUHLER PHILIPP S [US], et al
- [X1] US 9278353 B2 20160308 - SMITH KYLE C [US], et al
- [X1] US 2017029782 A1 20170202 - MAO LEIDONG [US], et al
- [A] US 2010297733 A1 20101125 - LIN QIAO [US], et al
- [A] US 2013306566 A1 20131121 - MAO LEIDONG [US], et al
- [A] DE 102009005925 A1 20100729 - HAHN SCHICKARD GES [DE]
- [A] US 6432630 B1 20020813 - BLANKENSTEIN GERT [DE]
- See references of WO 2019028445A1

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