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(54) Title **ANTI-PD-1 ANTIBODIES**

(56) References
Cited: WO-A1-2014/206107, WO-A1-2006/121168, WO-A1-2008/156712, WO-A1-2015/127407, AU-A1- 2014 201 367,

VAUGHAN T J ET AL: "HUMAN ANTIBODIES WITH SUB-NANOMOLAR AFFINITIES ISOLATED FROM A LARGE NON-IMMUNIZED PHAGE DISPLAY LIBRARY", NATURE BIOTECHNOLOGY, GALE GROUP INC, vol. 14, 1 March 1996 (1996-03-01), pages 309-314, XP000196144, ISSN: 1087-0156, DOI: 10.1038/NBT0396-309

AGATA Y ET AL: "EXPRESSION OF THE PD-1 ANTIGEN ON THE SURFACE OF STIMULATED MOUSE T AND B LYMPHOCYTES", INTERNATIONAL IMMUNOLOGY, OXFORD UNIVERSITY PRESS, GB, vol. 8, no. 5, 1 May 1996 (1996-05-01), pages 765-772, XP000971773, ISSN: 0953-8178

DAVIES J ET AL: "Affinity improvement of single antibody VH domains: residues in all three hypervariable regions affect antigen binding", IMMUNOTECHNOLOGY, ELSEVIER SCIENCE PUBLISHERS BV, NL, vol. 2, no. 3, 1 September 1996 (1996-09-01), pages 169-179, XP004070292, ISSN: 1380-2933, DOI: 10.1016/S1380-2933(96)00045-0

Enclosed is a translation of the patent claims in Norwegian. Please note that as per the Norwegian Patents Acts, section 66i the patent will receive protection in Norway only as far as there is agreement between the translation and the language of the application/patent granted at the EPO. In matters concerning the validity of the patent, language of the application/patent granted at the EPO will be used as the basis for the decision. The patent documents published by the EPO are available through Espacenet (<http://worldwide.espacenet.com>) or via the search engine on our website here: <https://search.patentstyret.no/>

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Patentkrav

- 5 **1.** Isolert antistoff som binder til programmert celledød-protein 1 (PD-1), omfattende en HCVR med sekvensen angitt i SEQ ID NO: 90 og en LCVR med sekvensen angitt i SEQ ID NO: 96.
- 10 **2.** Antistoffet ifølge krav 1 for anvendelse i en fremgangsmåte for behandling av en kreft hos et pattedyr, omfattende administrering av en effektiv mengde av antistoffet til et pattedyr med behov for dette.
- 15 **3.** In vitro-fremgangsmåte for å diagnostisere en adaptiv immunresistens hos en pasient som har kreft, omfattende:
å bringe et tumormikromiljø i en biopsiprøve fra pasienten i kontakt med antistoffet ifølge krav 1 merket med en detekterbar del; og
å detektere ekspresjon av PD-1 på CD8+ T-celler i tumor-mikromiljøet.
- 20 **4.** Fremgangsmåten ifølge krav 3, ytterligere omfattende å detektere ekspresjon av PD-L1 i tumor-mikromiljøet.
- 5.** Antistoffet for anvendelse ifølge krav 2, hvori kreften er lungekreft.