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(71) Applicant *(for all designated States except US)*: **DUTALYS** [AT/AT]; Max F. Perutz Laboratories, Dr. Bohr-Gasse 9/2, A-1030 Vienna (AT).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **BECKMANN, Roland** [DE/AT]; Zehenthofgasse 35/4, A-1190 Vienna (AT).

(74) Agent: **VIRNEKÄS, Bernhard**; Wallinger Ricker Schlotter Tostmann, Patent- und Rechtsanwälte, Zweibrückenstrasse 5-7, 80331 München (DE).

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(54) **Title**: DUAL TARGETING

Figure 1: Lists of preferred residues

A: List of the preferred CDR positions, of which all positions or a subset should be diversified to form the two binding regions in the most preferred dual targeting antibodies (all numbering according to Kabat)

Group "Lib1" = VL24, VL25, VL26, VL27, VL28#, VL29##, VL93, VL94, VL95$, VL95a$, VL95b$, VH58, VH59, VH60, VH61, VH62, VH63, VH64, VH65
Group "Lib2" = VH26*, VH27*, VH28*, VH29*, VH30*, VH31, VH32, VH94**, VH96-VH99, VH102, VL49**, VL53, VL54, VL55, VL56

This residue having number 28 in the Kabat nomenclature assumes that CDR-L1 length is 11; if the length is 10, then the residue number is 29; if the length is 12 or more, then the residue number is 27a.
This residue having number 29 in the Kabat nomenclature assumes that CDR-L1 length is 11; if the length is 10, then the residue number is 30; if the length is 12, then the residue number is 28; if the length is 13 or more, then the residue number is 27b.
$ Only in case of libraries comprising Vlambda light chains
* These residues are not included in the Kabat definition of CDR residues (Kabat et al., 1991), but they are included in the Chothia definition of CDR residues (Chothia et al., 1992), and they are included in our definition of CDR residues.
** These residues are not included in the Kabat definition of CDR residues (Kabat et al., 1991), but they are included in the Contact definition of CDR residues (MacCallum et al., 1996), and they are included in our definition of CDR residues.

B: List of preferred enhancing positions that can be diversified in some library designs to enhance the properties of the two binding regions in the novel dual targeting antibodies (all numbering according to Kabat)

Group "Lib1E" = VL1, VL2, VL3, VL69, VL70, VL100, VH46
Group "Lib2E" = VH1, VH2, VH3, VH25, VH76, VH105, VL45, VL57, VL58

C: List of preferred CDR positions, of which all positions or a subset is preferably left invariant or subjected to restricted diversification in both Lib1 and Lib2 library designs, to create an antibody core region that allows the two binding regions comprising Lib1 and Lib2 residues to behave independently (all numbering according to Kabat)

VL residues = VL32, VL33, VL34, VL50, VL51, VL52, VL89, VL90, VL91, VL96
VH residues = VH33, VH34, VH35, VH50, VH51, VH52, VH52a, VH52b if present, VH52c if present, VH53, VH54, VH55, VH57, VH95, and the residue directly before VH101 (which can have variable numbering depending on HCDR3 length)

(57) **Abstract**: The present invention relates to antibody-based dual targeting molecules, and to methods for generating such dual targeting molecules, including a library-based approach.

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