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(54) **MULTIPURPOSE ANTIBODY DERIVATIVES**

(75) Inventors: **Reinhilde Schoonjans**, Landegem (BE); **Nico Mertens**, Melsele (BE); **Walter Fiers**, Destelbergen (BE); **Roland Contreras**, Schelderode-Merelbeke (BE)

(73) Assignee: **Vlaams Interuniversitair Instituut Voor Biotechnologie**, Zwinjnaarde (BE)

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Primary Examiner—Larry R. Helms

(74) *Attorney, Agent, or Firm*—Knobbe, Martens, Olson & Bear, LLP

(57) **ABSTRACT**

The present invention relates to a class of molecules specified as novel multipurpose antibody derivatives. This class of molecules is created by heterodimerization of two constituting components. Heterodimerization is obtained by the specific heterotypic interaction of a chosen VH-CH1 combination of immunoglobulin domains, with a chosen VL-CL combination of immunoglobulin domains. The appropriate VH and VL domains in the VHCH1 and VLCL context, a binding specificity can be constituted by the heterodimerization scaffold itself. One or both of the comprising VHCH1 and VLCL chains can thus be extended at either the N- or the C-terminus or both with other molecules, such as a toxin polypeptide, an enzyme, a hormone, a cytokine, a signaling molecule, or a single chain linked Fv fragment with the same or a different specificity.

16 Claims, 14 Drawing Sheets