The technical problem underlying the present invention can be seen as the provision of means and methods for complying with the aforementioned needs. The technical problem is solved by the embodiments characterized in the claims and herein below.

In accordance, the present invention relates to a method for stimulating immune cells specifically binding to human host cells infected with an HPV16-related virus, said method comprising

(A) contacting a complex comprising a human leukocyte antigen (HLA) and a stimulation peptide (stimulation complex) with immune cells, and

(B) thereby stimulating immune cells specifically binding to HPV16-related virus-infected host cells,

wherein said stimulation peptide consists of an amino acid sequence selected from SEQ ID NOs:1 to 111, in a preferred embodiment selected from SEQ ID NOs: 1 to 129.

In an aspect, the present disclosure provides an *in vitro* method for producing an immunoreactive agent against human cancer cells infected with HPV16-related virus, said method comprising expressing an at least partial nucleic acid sequence encoding an immunoreactive agent obtained from an immune cell stimulated by a complex comprising a human leukocyte antigen (HLA) and a stimulation peptide (stimulation complex), wherein said stimulation peptide

(i) consists of an amino acid sequence selected from SEQ ID NOs:1 and 2 and said HLA is from HLA supertype HLA-A01;

(ii) consists of an amino acid sequence of SEQ ID NO: 11 and said HLA is from HLA supertype HLA-A02,

(iii) consists of an amino acid sequence selected from SEQ ID NOs:34 to 37 and said HLA is from HLA supertype HLA-A03/A11;

(iv) consists of an amino acid sequence selected from SEQ ID NOs:60 and 61and said HLA is from HLA supertype HLA-A24;

(v) consists of an amino acid sequence selected from SEQ ID NOs:61, 76, and 77 and said HLA is from HLA supertype HLA-B07; or

(vi) consists of an amino acid sequence selected from SEQ ID NOs:61 and 85 to 92 and said HLA is from HLA supertype HLA-B15;

and wherein an HPV16-derived peptide consisting of the same amino acid sequence as said stimulation peptide has been verified to be presented by human HPV16-positive cancer cells.

In another aspect, the present disclosure provides method for stimulating immune cells specifically binding to human host cells infected with a HPV16-related virus, said method comprising

(A) contacting a complex comprising a human leukocyte antigen (HLA) and a stimulation peptide (stimulation complex) with immune cells, and

(B) thereby stimulating immune cells specifically binding to said human host cells, wherein said stimulation peptide is selected from the list consisting of SEQ ID NOs:1, 2, 11, 34-37, 60, 61, 76, 77, and 85-92 and wherein an HPV16-derived peptide consisting of the same amino acid sequence as said stimulation peptide has been verified to be presented by human HPV16-positive cancer cells.

In an aspect, the present disclosure provides a method for determining the nucleic acid sequence of at least a part of an immunoreactive agent specifically binding to human host cells infected by a HPV16-related virus, said method comprising stimulating, identifying, and optionally enriching, immune cells specifically binding to said human host cells according to the method of the disclosure and the further step of sequencing at least a part of at least one polynucleotide encoding said immunoreactive agent in said immune cell.

In an aspect, the present disclosure provides a method for producing an immunoreactive agent against a human host cell infected with an HPV16-related virus, said method comprising

(i) stimulating immune cells specifically binding to human host cell infected with an HPV16-related virus according to the method of the disclosure;

(ii) identifying and optionally enriching the stimulated immune cells of step (i), preferably according to the method of the disclosure;

(iii) determining the nucleic acid sequence of at least a part of an immunoreactive agent expressed by said immune cells identified and optionally enriched in step (ii), and

(iv) expressing an at least partial nucleic acid sequence encoding the immunoreactive agent, preferably in an expression system, thereby producing the immunoreactive agent.

In an aspect, the present disclosure provides *in vitro* use of a stimulation peptide consisting of an amino acid sequence selected from SEQ ID NOs:1, 2, 11, 34-37, 60, 61, 76, 77, and 85-92, verified to be presented by human HPV16-positive cancer cells, and verified to stimulate human anti-stimulation peptide immune cells when presented as a human leukocyte antigen (HLA)-

complex, for stimulating, identifying, and optionally enriching, immune cells specifically binding to HPV16-related virus-infected human host cells.

The method for stimulating immune cells, preferably, is an in vitro method, which may, preferably e.g. be performed on an isolated sample of a subject. The method may, preferably, however, also be performed in vivo, more preferably in a non-human experimental animal. The method may comprise further steps beyond those expressly specified and may be assisted or performed by automated equipment.

In general, terms used herein are to be given their ordinary and customary meaning to a person of ordinary skill in the art and, unless indicated otherwise, are not to be limited to a special or customized meaning. As used in the following, the terms “have”, “comprise” or “include” or any arbitrary grammatical variations thereof are used in a non-exclusive way. Thus, these terms may both refer to a situation in which, besides the feature introduced by these terms, no further features are present in the entity described in this context and to a situation in which one or more further features are present. As an example, the expressions “A has B”, “A comprises B” and “A includes B” may both refer to a situation in which, besides B, no other element is present in A (i.e. a situation in which A solely and exclusively consists of B) and to a situation in which, besides B, one or more further elements are present in entity A, such as element C, elements C and D or even further elements. Also, as is understood by the skilled person, the expressions "comprising a" and "comprising an" preferably refer to "comprising one or more", i.e. are equivalent to "comprising at least one". In accordance, expressions relating to one item of a plurality, unless otherwise indicated, preferably relate to at least one such item, more preferably