~~What is claimed:~~

~~1. A combination vaccine which comprises i) an immunological agent effective for reducing the incidence of or lessening the severity of PPE caused by L. intracellularis, and ii) one or more immunological active components effective in treatment and/or prophylaxis of at least one further disease-causing organism for swine selected from the group consisting of; Salmonella spp., S, typhimurium, S.choleraesuis; Astroviruses; Rotavirus; Transmissible gastroenteritis virus; Brachyspira spp., B. hyodysenteriae, B. pilosicoli; Clostridium spp., in particular C. difficile, C. perfringens types A, B and C, C. novyi, C. septicum, C. tetani; Porcine enteric picornaviruses; Porcine enteric calicviruses; Actinobacillus pleuropneumonia; Bordetella bronchiseptica; Erysipelothrix rhsiopathiae; Haemophilus parasuis; Pasteurella spp., P. multocida; Mycoplasma spp., M. hyopneumoniae, M. hyorhinis; Swine influenza virus ; PRRS virus; Porcine circovirus; Porcine parvovirus; Pseudorabies virus; Eperythrozoonosis suis; Mycobacterium spp., M. avium , M. intracellulare, M. bovis; Porcine respiratory corona virus; Arcanobacterium pyogenes; Porcine adenovirus; Clasical swine fever; Porcine cytomegalovirus; African swine fever; Escherichia coli; Streptococcus spp., S. suis, S. porcinus, S. dysgalactiae, S. dysgalactiae subsp. equisimilis; Brucella suis, Brucella suis biovars 1, 2 and 3; Leptospira spp., L. australis, L. canicola, L. grippotyphosa, L. pomona, L. icterohaemorrhagicae, L. interrogans, L. tarassovi, L. hardjo, L. sejroe; Enceplialomyocarditis virus; Hemagglutinating encephalomyelitis virus; Japanese encephalitis virus; West~~

~~Nile virus; Reovirus; Rubulavirus; Menangle virus; Nipah virus; Vesicular stomatitis virus; Virus of vesicular exanthema of swine; Swine pox virus; Swine herpes virus; and Staphylococcus hyicus.~~

What is claimed:

~~21~~. ~~A e~~Combination vaccine, which comprises i) an avirulent *Lawsonia intracellularis* ~~antigen~~ isolate and ii) attenuated *Salmonella spp.* effective for the treatment and/or prophylaxis of an infection caused by ~~one or more immunological active components of at least one further disease-causing organism for swine selected from the group consisting of:~~ Salmonella spp., and iii) attenuated *Erysipelothrix rhusiopathiae* effective for the treatment and/or prophylaxis of an infection caused by *Erysipelothrix rhusiopathiae*, and a pharmaceutically acceptable carrier. ~~S. typhimurium, S.choleraesuis; Astroviruses; Rotavirus; Transmissible gastroenteritis virus; Brachyspira spp., B. hyodysenteriae, B. pilosicoli; Clostridium spp., in particular C. difficile, C. perfringens types A, B and C, C. novyi, C. septicum, C. tetani; Porcine enteric picornaviruses; Porcine enteric caliciviruses; Actinobacillus pleuropneumonia; Bordetella bronchiseptica; *Erysipelothrix rhsiopathiae*; Haemophilus parasuis; Pasteurella spp., P. multocida; Mycoplasma spp., M. hyopneumoniae, M. hyorhinis; Swine influenza virus ; PRRS virus; Porcine circovirus; Porcine parvovirus; Pseudorabies virus; Eperythrozoonosis suis; Mycobacterium spp,, M. avium , M. intracellulare, M. bovis; Porcine respiratory corona virus; Arcanobacterium pyogenes; Porcine adenovirus; Clasical swine fever; Porcine cytomegalovirus; African swine fever; Escherichia coli; Streptococcus spp., S. suis, S. porcinus, S. dysgalactiae, S. dysgalactiae subsp. equisimilis; Brucella suis, Brucella suis biovars 1, 2 and 3; Leptospira spp., L. australis, L. canicola, L grippotyphosa, L. pomona, L. icterohaemorrhagicae, L. interrogans, L. tarassovi, L. hardjo, L. sejroe; Encephalomyocarditis virus; Hemagglutinating encephalomyelitis virus; Japanese~~

~~encephalitis vims; West Nile virus; Reovirus; Rubulavirus; Menangle virus; Nipah virus; Vesicular stomatitis virus; Virus of vesicular exanthema of swine; Swine pox virus; Swine herpes virus; and Staphylococcus hyicus; and a pharmaceutical acceptable carrier.~~

~~3. The combination vaccine according to claim 2, wherein the immunological active components of disease-causing organism for swine are selected from Salmonella choleraesuis and Erysipelothrix spp.~~

2. The combination vaccine according to claim 1, wherein said combination vaccine is to be administered to a non-human animal for the prophylaxis or treatment of diseases and/or lessening of the clinical signs caused by *Salmonelle spp.* and *Erysipelothrix rhusiopathiae.*

3. The combination vaccine according to claim 1 or 2, wherein the avirulent *Lawsonia intracellularis* isolate is modified live *L. intracellularis* isolate.

4. The combination vaccine according to anyone of claims 1 to 3 comprising

i) about 3.0 to about 6.0 $TCID_{50}$ of the modified live *L. intracellularis* per dose and

ii) about $10^{7.0}$ to about $10^{9.0}$ CFU of the attenuated *Salmonella spp.* per dose and

iii) about $10^{8.0}$ to about $10^{10.5}$ CFU of the attenuated *Erysipelothrix rhusiopathiae* per dose.

5. The combination vaccine according to anyone of claims 1 to 3 comprising

i) about 4.0 to about 5.0 $TCID_{50}$ of the modified live *L. intracellularis* per dose and

ii) about $10^{8.0}$ to about 6 x $10^{8.0}$ CFU of the attenuated *Salmonella spp.* per dose and

iii) about $10^{9.0}$ to about 9 x $10^{9.0}$ CFU of the attenuated *Erysipelothrix rhusiopathiae* per dose.

6. The combination vaccine according to anyone of claims 1 to 5, wherein i) the avirulent *L. intracellularis* isolate is the bacteria isolate is the bacteria isolate with the ATCC accession No. PTA-4926 or the bacteria isolate with the ATCC accession No. 55783 or the avirulent *Lawsonia intracellularis* live culture of Enterisol® Ileitis FF or the avirulent *Lawsonia intracellularis* live culture of Enterisol® Ileitis Lyophilized, and ii) the attenuated *Salmonella spp* is the *Salmonella choleraesuis* live culture of Enterisol® SC-54FF, and iii) the attenuated *Erysipelothrix rhusiopathiae* is the live culture of Ingelvac® Ery-ALC.

47. The combination vaccine according to any one of claims ~~2~~1 to 6, further comprises one or more immunological active components from at least one of the following pathogens: Equine influenza virus (EIV), and Equine herpes virus (EHV).

~~5. The combination vaccine according to any one of claims 2 to 4, wherein the Lawsonia intracellularis antigen is an avirulent isolate.~~

8. The combination vaccine according to any one of claims 1 to 7, wherein a single vial mixed formulation of i) and ii) and a single vial information of iii), or a single vial mixed formulation of i) and iii) and a single vial information of ii) is to be administered.

9. The combination vaccines according to any one of claims 1 to 7 to be administered in form of separate single vial formulations of i), ii) and iii) that are to be administered separately within one week.

10. The combination vaccine according to any one of claims 1 to 7 to be administered in form of a single vial mixture.

11. The combination vaccine of any one of claims 1 to 10, wherein *Salmonella spp.* is *S. typhimurium* or *S. choleraesuis*.

612. A kit ~~comprising *L. intracellularis* antigen and one or more immunological active components of at least one further disease-causing organism for swine selected from the group consisting of:~~ for the prophylaxis or treatment of diseases and/or lessening of the clinical signs caused by *Salmonella spp*, and *Erysipelothrix rhusiopathiae* comprising i) avirulent *L. intracellularis* isolate effective for reducing the incidence of or lessening the severity of porcine proliferation enteropathy caused by *L. intracellularis*, and ii) attenuated *Salmonella spp.* effective in treatment and/or prophylaxis of infections caused by *Salmonella spp.*, and iii) attenuated *Erysipelothrix rhusiopathiae* effective in treatment and/or prophylaxis of infections caused by *Erysipelothrix rhusiopathiae* in one container.~~, S. typhimurium, S.choleraesuis; Astroviruses; Rotavirus; Transmissible gastroenteritis virus; Brachyspira spp., B. hyodysenteriae, B. pilosicoli; Clostridium spp., in particular C. difficile, C. perfringens types A, B and C, C. novyi, C. septicum, C. tetani; Porcine enteric picornaviruses; Porcine enteric caliciviruses; Actinobacillus pleuropneumonia;~~

~~Bordetella bronchiseptica; *Erysipelothrix rhsiopathiae*; Haemophilus parasuis; Pasteurella spp., P. multocida; Mycoplasma spp., M. hyopneumoniae, M. hyorhinis; Swine influenza virus ; PRRS virus; Porcine circovirus; Porcine parvovirus; Pseudorabies virus; Eperythrozoonosis suis; Mycobacterium spp., M. avium , M. intracellulare, M. bovis; Porcine respiratory corona virus; Arcanobacterium pyogenes; Porcine adenovirus; Clasical swine fever; Porcine cytomegalovirus; African swine fever; Escherichia coli; Streptococcus spp., S. suis, S. porcinus, S. dysgalactiae, S. dysgalactiae subsp. equisimilis; Brucella suis, Brucella suis biovars 1, 2 and 3; Leptospira spp., L. australis, L. canicola, L. grippotyphosa, L. pomona, L. icterohaemorrhagicae, L. interrogans, L. tarassovi, L. hardjo, L. sejroe; Encephalomyocarditis virus; Hemagglutinating encephalomyelitis vims; Japanese encephalitis virus; West Nile virus; Reovirus; Rubulavirus; Menangle virus; Nipah virus; Vesicular stomatitis virus; Virus of vesicular exanthema of swine; Swine pox virus; Swine herpes virus; and Staphylococcus hyicus; in one container.~~

~~7~~13. A kit ~~comprising *L. intracellularis* antigen and one or more immunological active components of at least one further disease-causing organism for swine selected from the group consisting of:~~ for the prophylaxis or treatment of diseases and/or lessening of the clinical signs caused by *Salmonella spp.* and *Erysipelothrix rhusiopathiae* comprising i) avirulent *L. intracellularis* isolate effective for reducing the incidence of or lessening the severity of porcine proliferation enteropathy caused by *L. intracellularis*, and ii) attenuated *Salmonella spp.* effective in treatment and/or prophylaxis of infections caused by *Salmonella spp.*, and iii) attenuated *Erysipelothrix rhusiopathiae* effective in treatment and/or prophylaxis of infections caused by *Erysipelothrix rhusiopathiae*; ~~, S. typhimurium, S.choleraesuis; Astroviruses; Rotavirus; Transmissible gastroenteritis virus; Brachyspira spp., B. hyodysenteriae, B. pilosicoli; Clostridium spp., in particular C. difficile, C. perfringens types A, B and C, C. novyi, C.~~

~~septicum, C. tetani; Porcine enteric picornaviruses; Porcine enteric caliciviruses; Actinobacillus pleuropneumonia;~~

~~Bordetella bronchiseptica; *Erysipelothrix rhsiopathiae*; Haemophilus parasuis; Pasteurella spp., P. multocida; Mycoplasma spp., M. hyopneumoniae, M. hyorhinis; Swine influenza virus ; PRRS virus; Porcine circovirus; Porcine parvovirus; Pseudorabies virus; Eperythrozoonosis suis; Mycobacterium spp., M. avium , M. intracellulare, M. bovis; Porcine respiratory corona virus; Arcanobacterium pyogenes; Porcine adenovirus; Clasical swine fever; Porcine cytomegalovirus; African swine fever; Escherichia coli; Streptococcus spp., S. suis, S. porcinus, S. dysgalactiae, S. dysgalactiae subsp. equisimilis; Brucella suis, Brucella suis biovars 1, 2 and 3; Leptospira spp., L. australis, L. canicola, L. grippotyphosa, L. pomona, L. icterohaemorrhagicae, L. interrogans, L. tarassovi, L. hardjo, L. sejroe; Encephalomyocarditis virus; Hemagglutinating encephalomyelitis virus; Japanese encephalitis virus; West Nile virus; Reovirus; Rúbulavirus; Menangle virus; Nipah virus; Vesicular stomatitis virus; Virus of vesicular exanthema of swine; Swine pox virus; Swine herpes virus; and Staphylococcus hyicus; in two or more**each in a separate container, or wherein the kit comprises two containers with one container including a mixture of two immunological active components of i)-iii) and one container including the missing immunological component i), ii) or iii).**

14. The kit according to claim 12 or 13, wherein the avirulent *Lawsonia intracellularis* isolate is a modified live *L. intracellularis* isolate.

15. The kit according to claim 12 or 13, wherein i) the avirulent *Lawsonia intracellularis* isolate is the bacteria isolate with the ATCC accession No. PTA-4926 or the bacteria isolate with the ATCC accession No. 55783.

16. The kit according to claim 12 or 13, wherein i) the avirulent *Lawsonia intracellularis* isolate is the avirulent *Lawsonia intracellularis* live culture of Enterisol® Ileitis FF or the avirulent *Lawsonia intracellularis* live culture of Enterisol® Ileitis Lyophilized, and ii) the attenuated *Salmonella spp.* is the *Salmonella choleraesuis* live culture of Enterisol® SC-54FF, and iii) the attenuated *Erysipelothrix rhusiopathiae* is the live culture of Ingelvac® Ery-ALC.

~~8~~17. The kit according to claim ~~6~~ 12 or ~~7~~13, wherein the kit further comprises an instruction letter for the treatment and/or prophylaxis of diseases of swine.

~~9~~18. Use of the combination vaccine according to anyone of claims 1 to 11 or the kit according to anyone of claims 12 to 17 ~~*L. intracellularis* antigen together with one or more further immunological active components of at least~~

~~one further disease-causing organism for swine selected from the group consisting of: Salmonella spp., S. typhimurium, S.choleraesuis; Astroviruses; Rotavirus; Transmissible gastroenteritis virus; Brachyspira spp., B. hyodysenteriae, B. pilosicoli; Clostridium spp., in particular C. difficile, C. perfringens types A, B and C, C. novyi, C. septicum, C. tetani; Porcine enteric picornaviruses; Porcine enteric caliciviruses; Actinobacillus pleuropneumonia; Bordetella bronchiseptica; Erysipelothrix rhsiopathiae; Haemophilus parasuis; Pasteurella spp., P. multocida; Mycoplasma spp., M. hyopneumoniae, M. hyorhinis; Swine influenza virus ; PRRS virus; Porcine circovirus; Porcine parvovirus; Pseudorabies virus; Eperythrozoonosis suis; Mycobacterium spp., M. avium , M. intracellulare, M. bovis; Porcine respiratory corona virus; Arcanobacterium pyogenes; Porcine adenovirus; Clasical swine fever; Porcine cytomegalovirus; African swine fever; Escherichia coli; Streptococcus spp., S. suis, S. porcinus, S. dysgalactiae, S. dysgalactiae subsp. equisimilis; Brucella suis, Brucella suis biovars 1, 2 and 3; Leptospira spp., L. australis, L. canicola, L. grippotyphosa, L. pomona, L. icteroliaemorrhagicae, L. interrogans, L. tarassovi, L. hardjo, L. sejroe; Encephalomyocarditis virus; Hemagglutinating encephalomyelitis virus; Japanese encephalitis virus; West Nile virus; Reovirus; Rubulavirus; Menangle virus; Nipah virus; Vesicular stomatitis virus; Virus of vesicular exanthema of swine; Swine pox virus; Swine herpes virus; and Staphylococcus hyicus~~ in the manufacture of a ~~combination vaccine~~medicament for the prophylaxis or treatment of diseases and/or lessening of the clinical signs caused by ~~*L. intracellularis*~~*Salmonella spp.*, and *Erysipelothrix rhusiopathiae*~~one or more further swine pathogenic microorganism(s)~~, wherein said combination vaccine or kit is to be administered to a non-human animal.