Xavier RJ, Podolsky DK (2007) "Unravelling the pathogenesis of inflammatory bowel disease" *Nature* 448 (7152): 427–34; J. H. Cho (2008) "The genetics and immunopathogenesis of inflammatory bowel disease" *Nature Reviews Immunology* 8, 458-466).

[0018] Anti-inflammatory drugs and immune system suppressants may be used in the treatment of IBD, such as sulfasalazine (Azulfidine™), mesalamine (Asacol™, Rowasa™), corticosteroids (e.g. prednisone), azathioprine (Imuran™), mercaptopurine (Purinethol™), infliximab (Remicade™), adalimumab (Humira™), certolizumab pegol (Cimzia™), methotrexate (Rheumatrex™), cyclosporine (Gengraf™, Neoral™, Sandimmune™) or natalizumab (Tysabri™).

[0019] Alternative treatments for IBD have been suggested, including the use of various biological agents, or treatments that purportedly adjust natural intestinal flora, sometimes called probiotic treatments (US 2007/0258953; US 2008/0003207; WO 2007/076534; WO 2007/136719; WO 2010/099824). It has for example been reported that IBD may be treated with a deliberate infestation of parasitic worms, for example by consumption of the live ova of the Trichuris suis helminth (Summers et al. (2003) "Trichuris suis seems to be safe and possibly effective in the treatment of inflammatory bowel disease". Am. J. Gastroenterol. 98 (9): 2034–41; Büning et al., (2008) "Helminths as governors of inflammatory bowel disease" Gut 57:1182-1183; Weinstock and Elliott (2009) "Helminths and the IBD hygiene hypothesis" Inflamm Bowel Dis. 2009 Jan;15(1):128-33).

SUMMARY OF THE DISCLOSURE

[0019a] In one aspect, provided herein is a use of antigenic determinants from at least one microbial pathogen that is pathogenic in the bone for the manufacture of an anti-inflammatory composition for treating cancer metastases to the bone, wherein the microbial pathogen is *Staphylococcus aureus*, wherein the anti-inflammatory composition comprises whole killed

bacterial cells, and wherein the anti-inflammatory composition is formulated for administration by a route that is not enteric.

[0020] In one example a method of formulating an anti-inflammatory composition for treating a condition characterized by inflammation in a specific organ or tissue is provided. The method involves selecting at least one pathogen that is pathogenic in the specific organ or tissue; producing an antigenic composition comprising antigenic determinants that together are specific for the pathogen; and formulating the antigenic

Claims

1. Use of antigenic determinants from at least one microbial pathogen that is pathogenic in the bone for the manufacture of an anti-inflammatory composition for treating cancer metastases to the bone, wherein the microbial pathogen is *Staphylococcus aureus,* wherein the anti-inflammatory composition comprises whole killed bacterial cells, and wherein the anti-inflammatory composition is formulated for administration by a route that is not enteric.

2. The use according to claim 1, wherein the anti-inflammatory composition is formulated for administration intradermally or subcutaneously.

3. The use according to claim 1 or 2, wherein the anti-inflammatory composition is for administration with an effective amount of an antiinflammatory or immune suppressant medicament.

4. The use according to claim 3, wherein the anti-inflammatory or immune suppressant medicament is sulfasalazine, mesalamine, a corticosteroid, azathioprine, mercaptopurine, infliximab, adalimumab, certolizumab pegol, methotrexate, cyclosporine or natalizumab.