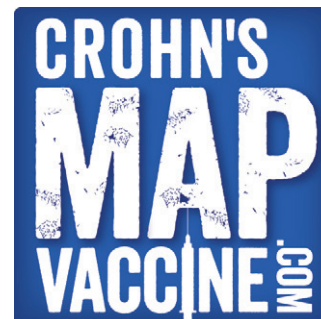


Professor John Hermon-Taylor

Division of Diabetes and Nutritional Sciences
Franklin-Wilkins Building King's College London SE1 9NH UK



Curriculum Vitae

Present Appointment

- Founder - Crohn's MAP Vaccine
- Visiting Professor - King's College London

Degrees and Diplomas

BA (Hons) 2 ¹	Natural Sciences, Cambridge University	1957
MB,BChir	Cambridge University	1960
FRCS	Royal College of Surgeons of England	1963
MChir	Cambridge University	1968

Surgical Appointments

SHO, Surgical Registrar, University Lecturer and Senior Surgical Registrar posts 1961-1968. 60/61 The London Hospital Whitechapel; 62/63 Bethnal Green Hospital; 63/64 The Brompton Hospital Fulham Road; 64 Royal National Orthopedic Hospital Stanmore; 65 Surgical Unit The London Hospital; 66 Queen Mary's Hospital Stratford; 67 The London Hospital. Then Medical Research Council Travelling Fellow to the Department of Gastrointestinal Physiology Mayo Clinic USA 1968-69. Senior Lecturer/Honorary Consultant to the London Hospital and Medical College 1970-71. Reader in Surgery, The London Hospital and Medical College 1971-76. Professor and Chairman of Surgery St.George's Hospital Medical School and Honorary Consultant Surgeon, St George's Hospital 1976-2002. Professor Emeritus 2002-present. Visiting Professor King's College London 2008-present.

Other Professional and Scientific Appointments

Council of the Association of Surgeons of Great Britain and Ireland 1980-1983. Director James IV Association of Surgeons 1983-1986. Governing Council of St. George's Hospital Medical School 1977-1980, 1981-84, 1990-93 and 1996-1997. Visiting Professor, Mayo Clinic, USA.1980 and 1985. Pearce-Gould Visiting Professor Middlesex Hospital 1982. Visiting Professor Pakistan Institute of Medical Sciences, Islamabad 1989. Clinical Panel, The Wellcome Trust 1985-1988. Home Office Assessor, Animals Scientific Procedures Act 1986. International Scientific Review Committee Ludwig Institute for Cancer Research, Melbourne, Australia 1987. Council, Action Research 1988-1997. Civilian Consultant Advisor in Surgery to the Royal Navy 1989-2002. Scientific Committee, British Digestive Foundation 1991-1993. Scientific Committee. CICRA Crohn's in Childhood Research Association 1993-1998. Health Services Research & Clinical Epidemiology Advisory Committee, the Wellcome Trust 1996-2001. Working Group on Paratuberculosis and Crohn's Disease: Advisory Committee on Animal Health and Welfare. European Commission 1998-2000.

Fields of Special Clinical Interest

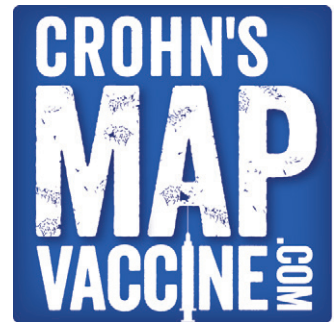
- Gastrointestinal surgery.
- The care of people with Crohn's disease.

Awards

- Shepherd-Churchill Open Major Entrance Scholarship to Harrow School.
- St. John's College Cambridge Travelling Scholarship to the USA.
- Open Entrance Scholarship to The London Hospital Medical College.
- Undergraduate Prizes in Pathology, Medicine, Gynaecology and Obstetrics, London Hospital Medical College.
- Hallett Prize, Royal College of Surgeons of England.
- Hutchison Prize for original research, The London Hospital Medical College.
- Medical Research Council Travelling Fellowship to the Mayo Clinic U.S.A.
- The Times Newspaper and Barclays Bank "Innovator of the Year" Award 1988.

Principal Societies

- American Society of Microbiology.
- American Gastroenterology Association.
- British Society of Gastroenterology.
- Formerly: British Society of Cell Biology and Biochemical Society and others in which I had a major interest for many years.



Field of Specialist Research Interest

Diseases of animals and humans caused by exposure to the multi-host pathogen *Mycobacterium Avium* Subspecies Paratuberculosis (MAP).

Current Research at King's College London

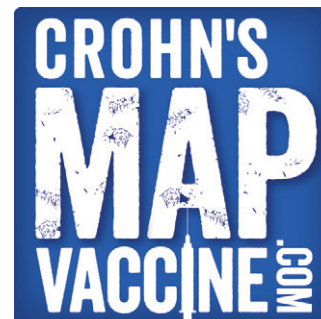
- Progress towards the GMP manufacture and clinical trial of ChAdOx2.HAVprime/MVA.HAVboost therapeutic T-cell vaccination in people with Crohn's disease.
- Development and clinical trial of a simple quantitative clinically applicable diagnostic for MAP infection in humans.

Milestones in MAP Research

- 1979 At St George's Hospital Medical School, London; establishment of a laboratory of molecular biology in the Department of Surgery.
- 1985 Discovery of a DNA repetitive element subsequently designated IS900, in 3 long term cultures of CD tissues developed by Dr Rod Chiodini.
- 1988 DNA sequencing led to the full GC-rich sequence of IS900. Since MAP from humans was extremely difficult to culture a specific DNA (PCR) Test was made to reveal the presence of MAP.
- 1990 DNA tests showed that most people with CD were infected with MAP.
- 1992 People with severe CD were treated with drug combinations including rifabutin and clarithromycin to which antibiotic resistant organisms similar to MAP were known to be more sensitive. Attenuation of MAP infection could lead to healing of CD.
- 1990-95 Live MAP identified in retail pasteurised milk from supermarkets throughout the South of England
- 1995 A low GC DNA element was discovered in MAP containing 6 genes for the biosynthesis, derivatisation and transport of fucose to the microbial surface. Since a surface fucose layer is common in cells and 'good' gut bacteria in the gut lining, this new element enabled MAP to be a 'wolf-in-sheeps-clothing'. It also provided a conceptual basis for the extreme robustness of the ZN negative form of MAP in humans.
- 1997 The decision to make a modern Virally vectored anti-MAP vaccine; gene selection and construction of the HAV Vaccine core.
- 2000 With a 5 year MRC/NERC award 'Special Initiative in Environment and Health' together with Prof. Roger Pickup at the Centre for Ecology & Hydrology and the University of Lancaster. Confirmation of MAP infection in 90% of people with CD using PCR (polymerase chain reaction) with verification by amplicon sequencing. Use Amoebae to capture and retain MAP from extracts of CD gut.
- Environment work studying MAP in lakes, sedimentary cores, the rivers Taff and Towey, water treatment plants and domestic water systems. This provided an understanding of the seriousness of environmental contamination, the persistence of these robust pathogens and the widespread nature of opportunities for human exposure including in aerosols.
- 2001 Collaboration with Prof. Sarah Gilbert at the University of Oxford and Jenner Vaccine Institute. Optimisation of viral vectors for the MAP vaccine and completion of the first form of the vaccine comprising hAd5.HAV/MVA.HAV.
- 2005 prime/boost 'HAV' vaccination was safe, potent and effective in treatment and prevention of MAP infection in mice.
- 2008 At King's College London. Design and development of a simple quantitative clinical diagnostic for MAP.
- 2009 Modification of the HAV anti-MAP vaccine core to remove a short sequence so nothing matches anything in humans.
- 2013 A 3 year BBSRC multicentre study led by Dr Tim Bull at St George's shows hAd5.HAV/MVA.HAV vaccination to be safe, potent and highly effective against MAP infection in calves.
- 2014 A new priming vector ChAdOx2 developed by scientists at the Jenner Institute, Oxford University is adopted for human clinical trials. Process development for the ultra pure GMP manufacture of ChAdOx2.HAV for humans.

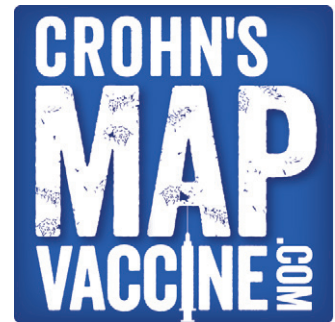
Funding the MAP Vaccine

The majority of the money to make and develop the core of the MAP vaccine has come from small private Trusts and donations from people with Crohn's disease and their families without which the present promising anti-MAP vaccination treatment for CD and the new clinical diagnostic for MAP would not exist.



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50. Hermon-Taylor J. Gut pathogens: invaders and turncoats in a complex cosmos. *Gut Pathog.* 2009 Feb 3;1(1):3.
- 49.* Bull TJ, Gilbert SC, Sridhar S, Linedale R, Dierkes N, Sidi-Boumedine K, Hermon-Taylor J. A novel multi-antigen virally vectored vaccine against *Mycobacterium avium* subsp. paratuberculosis. *PLoS One.* 2007 Nov 28; 2(11):e1229.
- 48.* Scanu AM, Bull TJ, Cannas S, Sanderson JD, Sechi LA, Dettori G, Zanetti S, Hermon-Taylor J. *Mycobacterium avium* subspecies paratuberculosis infection in cases of Irritable Bowel Syndrome and comparison with Crohn's disease and Johne's disease: common neural and immune pathogenicities. *J Clin Microbiol* 2007; 45:3883-3890.
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- 46.* Mura M, Bull TJ, Evans H, Sidi-Boumedine K, McMinn L, Rhodes G, Pickup R, Hermon-Taylor J. Replication and long-term persistence of bovine and human strains of *Mycobacterium avium* subsp. paratuberculosis within *Acanthamoeba* polyphaga. *Appl Environ Microbiol.* 2006; 72:854-9.
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- 42.* Bull TJ, McMinn EJ, Sidi-Boumedine K, Skull A, Durkin D, Neild P, Rhodes G, Pickup R, Hermon-Taylor J. Detection and verification of *Mycobacterium avium* subsp. paratuberculosis in fresh ileocolonic mucosal biopsy specimens from individuals with and without Crohn's disease. *J Clin Microbiol* 2003; 41:2915-23.
41. Bull TJ, Sidi-Boumedine K, McMinn EJ, Stevenson K, Pickup R, Hermon-Taylor J. *Mycobacterial interspersed repetitive units (MIRU)* differentiate *Mycobacterium avium* subspecies paratuberculosis from other species of the *Mycobacterium avium* complex. *Mol Cell Probes* 2003; 17:157-64.
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39. Hermon-Taylor J. Treatment with drugs active against *Mycobacterium avium* subspecies paratuberculosis can heal Crohn's disease: more evidence for a neglected public health tragedy. *Dig Liver Dis.* 2002; 34:9-12.
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35. Bull TJ, Sheridan JM, Martin H, Sumar N, Tizard M, Hermon-Taylor J. Further studies on the GS element. A novel mycobacterial insertion sequence (IS1612), inserted into an acetylase gene (*mpa*) in *Mycobacterium avium* subsp. *silvaticum* but not in *Mycobacterium avium* subsp. paratuberculosis. *Vet Microbiol* 2000; 77:453-63.
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28. Hermon-Taylor J. Causation of Crohn's disease: the impact of clusters. *Gastroenterology* 1993;104:643-6.
- 27.* Sanderson JD, Moss MT, Tizard ML, Hermon-Taylor J. Mycobacterium paratuberculosis DNA in Crohn's disease tissue. *Gut* 1992; 33:890-6.
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- 20.* Green EP, Tizard ML, Moss MT, Thompson J, Winterbourne DJ, McFadden JJ, Hermon-Taylor J. Sequence and characteristics of IS900, an insertion element identified in a human Crohn's disease isolate of Mycobacterium paratuberculosis. *Nucleic Acids Res* 1989; 17:9063-73.
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14. McFadden, J.J., Thompson J., Hull E., Hampson S., Stanford J , Hermon-Taylor J. The use of cloned DNA probes to examine organisms isolated from Crohn's disease tissue. In: MacDermott R.P. ed. *Inflammatory Bowel Disease: Current status and future approach.* Elsevier Science Publishers 1988, 515-520.
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- 10.* McFadden JJ, Butcher PD, Chiodini R, Hermon-Taylor J. Crohn's disease-isolated mycobacteria are identical to Mycobacterium paratuberculosis as determined by DNA probes that distinguish between mycobacterial species. *J Clin Microbiol* 1987; 25:796-801.
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*major steps forward

Best of the other 76 Original Papers

Grant DA and Hermon-Taylor J. The purification of human enterokinase by affinity chromatography and immunoabsorption. Some observations on its molecular characteristics and comparisons with the pig enzyme. *Biochem J.* 1976; 155:243-54.