



## Association of interleukin 1 beta (*IL-1β*) polymorphism with mRNA expression and risk of non small cell lung cancer<sup>☆</sup>

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### ABSTRACT

**Introduction:** Interleukin 1 beta (*IL-1β*), a key proinflammatory cytokine encoded by the interleukin 1 beta gene, has been associated with chronic inflammation and plays an important role in lung inflammatory diseases including lung cancer. Elevated levels of Interleukin 1 proteins, in particular interleukin 1 beta greatly enhance the intensity of the inflammatory response.

**Aim:** To study the role of interleukin 1 beta-31C > T and -511 T > C polymorphism in the pathogenesis of non small cell lung cancer (NSCLC). **Materials and methods:** One hundred and ninety non small cell lung cancer patients and 200 healthy age, sex, smoking and dwelling matched controls were used for polymorphic analysis by polymerase chain reaction–restriction fragment length polymorphism (PCR-RFLP) followed by sequencing. Normal tissues of 48 histopathologically confirmed non small cell lung cancer patients were taken for mRNA expression analysis. Quantitation of interleukin 1 beta was carried out by quantitative real time PCR.

**Result:** The T/T genotype of interleukin 1 beta-31 gene was significantly associated with increased risk of NSCLC [(P = 0.001, OR = 2.8 (95%CI 1.52–5.26)]. The interleukin 1 beta –511 T > C does not show any difference between the NSCLC and control group (P = 0.3, OR = 0.72

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# Association Of Interleukin 1 Beta Il 1 Polymorphism

**Michael Rajnik**



## **Association Of Interleukin 1 Beta Il 1 Polymorphism:**

**Newman and Carranza's Clinical Periodontology for the Dental Hygienist** Michael G. Newman, Gwendolyn Essex, Lory Laughter, Satheesh Elangovan, 2020-03-24 Textbook and Academic Authors Association TAA Most Promising New Textbook Award Winner 2024 The complete health focused approach makes this a must have instructional resource to support you throughout your Dental Hygiene educational program and beyond Based on the trusted content in Newman and Carranza's Clinical Periodontology the most widely used periodontal textbook in the world this resource provides the most up to date complete and essential information The broad range of content covers everything from the biology of the periodontium how it's structured and the functions it serves the new classification of periodontal disease the link between periodontal disease and systemic health and more An extensive clinical section contains a complete guide to everything from procedure instrumentation to patient management at the point of care Full color photos illustrations radiographs show how to perform periodontal procedures Case based practice questions and skill evaluation checklists promote board exam readiness The clear instruction and health focused approach provides support throughout the Dental Hygiene program and beyond Online student and educator support on Evolve Dental hygiene emphasis and relevance provides solid foundational content Comprehensive topic coverage focuses on the translation of the science to evidence based practice and clinical decision making Extensive full color photos and illustrations clearly demonstrate core concepts and reinforce important principles Case based clinical scenarios incorporated throughout the book mimic the patient case format used in credentialing exams Many new and important chapters on periimplantitis resolving inflammation evidence based decision making and critical thinking Robust art program of clinical images charts graphs and unique illustrations enhances engagement The most complete atlas of periodontal pathology ever offered for the dental hygienist Key information and highlights presented as call out boxes [Cytokine Gene Polymorphisms in Multifactorial Conditions](#) Koen

Vandenbroeck, 2006-06-21 The literature on cytokine genetics is vast so vast that it is now practically beyond the time or logistical constraints of most scientists to successfully keep pace with it A compilation of the latest research Cytokine Gene Polymorphisms in Multifactorial Conditions brings together reviews and structures up to date information on polymorphism

**Newman and Carranza's Clinical Periodontology E-Book** Michael G. Newman, Henry Takei, Perry R. Klokkevold, Fermin A. Carranza, 2018-05-29 From basic science and fundamental procedures to the latest advanced techniques in reconstructive esthetic and implant therapy Newman and Carranza's Clinical Periodontology 13th Edition is the resource you can count on to help master the most current information and techniques in periodontology Full color photos illustrations and radiographs show you how to perform periodontal procedures while renowned experts from across the globe explain the evidence supporting each treatment and lend their knowledge on how to best manage the outcomes UNIQUE Periodontal Pathology Atlas contains the most comprehensive collection of cases found anywhere Full color photos and anatomical drawings clearly

demonstrate core concepts and reinforce important principles UNIQUE Chapter opener boxes in the print book alert readers when more comprehensive coverage of topics is available in the online version of the text NEW Chapters updated to meet the current exam requirements for the essentials in periodontal education NEW Case based clinical scenarios incorporated throughout the book mimic the new patient case format used in credentialing exams NEW Additional tables boxes and graphics highlight need to know information NEW Virtual microscope on Expert Consult offers easy access to high resolution views of select pathology images NEW Two new chapters cover periimplantitis and resolving inflammation NEW Section on evidence based practice consists of two chapters covering evidence based decision making and critical thinking

**Cumulated Index Medicus** ,2000      **American Journal of Respiratory and Critical Care Medicine** ,2004

Association of Interleukin-1B Gene Polymorphisms with Chronic and Aggressive Forms of Periodontitis Sung Jin

Min,2007 Abstract Inflammatory periodontitis is characterized by the loss of the connective tissue attachment to the teeth in the presence of gingival inflammation In terms of pathogenesis of periodontitis many cytokines and inflammatory mediators promote the release of tissue derived enzymes the matrix metalloproteinases which are destructive to the extracellular matrix and bone Among them interleukin 1 IL 1 a pro inflammatory cytokine enables ingress of inflammatory cells into sites of infection promotes bone resorption stimulates eicosanoid release by monocytes and fibroblasts stimulates release of matrix metalloproteinases that degrade proteins of the extracellular matrix and participates in many aspects of the immune response In some patients over expression of IL 1 is associated with an increased risk of developing periodontitis The production and activity of IL 1 are regulated by both transcriptional and posttranslational mechanisms as well as by the IL 1 receptor antagonist Previous studies have indicated that single nucleotide polymorphisms SNPs in the promoter region of IL 1 gene 511 31 3954 may influence one s susceptibility to and prognosis of diseases due to IL 1 mediated inflammation The effects of the promoter SNPs on gene transcription however may be complex and involve many interactions among multiple polymorphic sites as haplotypes IL 1B polymorphisms were investigated in 52 generalized aggressive periodontitis GAP patients 53 generalized chronic periodontitis GCP patients and 42 healthy controls of a Turkish population Chi Square test and haplotype analysis was used to investigate the association of the polymorphisms with disease In GAP cases IL 1B 31T C and 511C T SNPs exhibited a significant association with significant risk for the development of the disease P 0.024 and P 0.017 respectively In cases with GCP none of SNPs were associated with disease Haplotype analysis supported the aetiologic contribution of IL 1B 31 and 511 SNPs in GAP cases In conclusion polymorphisms in IL 1B 31 and 511 may contribute to the risk of developing GAP while IL 1B 3954 polymorphisms do not appeared to be associated with an increased risk of developing periodontitis in a Turkish Population Further haplotype analysis with other SNPs in IL 1B region is suggested

*Inflammatory Bowel Disease* Stephan R. Targan,Fergus Shanahan,Loren C. Karp,2007-05-16 Inflammatory Bowel Disease

From Bench to Bedside is a detailed and comprehensive story of the local and systemic pathophysiology of intestinal

inflammation including management strategies Research advances and current concepts of etiopathogenesis in the context of what is already known of the clinicopathologic features of these disorders are explored This volume blends recent advances in the basic and clinical sciences as they relate to inflammatory bowel disease and emphasizes the effectiveness of a team approach of basic scientists and clinician investigators in this field     **The Cytokine Handbook** Angus W. Thomson,1998

The Third Edition of the Cytokine Handbook provides encyclopedic coverage of the hemopoietic growth factors and the interleukin and interferon families of molecules cytokine by cytokine This new edition is completely revised to bring the reader the most up to date information on all of the important cytokines and cytokine receptors with the inclusion of new members of the interleukin family up to IL 18 in depth treatment of cytokine receptors as well as individual chapters on stem cell factor and flt3 ligand gene therapy and the chemokines The Cytokine Handbook explains in detail the immunology and molecular biology of these molecules and their receptors and discusses in additional chapters their therapeutic potential assay systems and phylogeny It is written in an easy to follow style and includes an extensive bibliography This book is a must for the library of any researcher or clinician interested in or bewildered by the diversity of cytokines Key Features Up to date material includes new members of the interleukin family up to IL 18 In depth treatment of cytokine receptors Individual chapters on stem cell factor and flt3 ligand gene therapy and the chemokines     **The Journal of Rheumatology** ,2005

*Associations of Lung and Upper Aero-digestive Tract (UADT) Cancers with Environmental Factors, Genetic Polymorphisms, and Tumor Biomarkers in Population-based Case-control Study* Sam Seung-Hoon Oh,2010     *Cytokine Therapeutics in Infectious Diseases* Steven Matthew Holland,2001 Cytokine Therapeutics in Infectious Diseases provides a comprehensive analysis of the role cytokines fulfill in fighting infectious diseases Structured to disclose clinical discoveries with clarity and accessibility the information on therapeutic cytokines is linked to specific diseases The book closes with a discussion about future directions for research applications and studies     **Cancer Causes & Control** ,2006     *Arthritis in Children and Adolescents* Ilona S. Szer,2006-03-16 This is a very practical guide to the recognition diagnosis and treatment of the various forms of chronic arthritis in children It uses algorithms tables and many high quality colour illustrations to make key points and so can easily be used in a busy practice for initial diagnosis and follow up     **Fundamentals of**

**Periodontics** Thomas G. Wilson,Kenneth S. Kornman,2003 This clinically oriented text provides the essential information needed to understand periodontal diseases and deliver effective treatment Written in user friendly style it explains the biology of the periodontium in health and disease gives detailed instructions on patient examination and discusses various local and systemic risk factors Actual case scenarios illustrate how to interpret clinical evidence make a diagnosis and develop a treatment plan for the most common forms of disease Also covered are implant therapy and adjunct treatment procedures that may be needed to enhance periodontal health     **Annals of Periodontology** ,2001     *IBD at the End of Its First Century* G. Rogler,F. Kullman,P. Rutgeerts,R.B. Sartor,J. Schölmerich,2000-07-31 Although the first description of

patients with what we now call Crohn's disease or ulcerative colitis was published well before 1900 both disorders seem to be diseases of the twentieth century At the very start of the twenty first century it therefore seems appropriate to look back and at the same time look forward and to assess what knowledge has been gained during the last 100 years and in what direction research and thereby clinical practice will go in the future This book the proceedings of Falk Symposium No 111 held in Freiburg Germany on June 19 20 1999 contains contributions from experienced senior scientists on the state of the art in pathophysiology diagnosis and treatment together with unpublished and new findings from young researchers Basic scientists and clinicians are thereby involved in an exchange of information which will lead to new directions for future research and clinical management of inflammatory bowel diseases

**Carranza's Clinical Periodontology** Michael G. Newman, Fermin A. Carranza, Henry H. Takei, Perry R. Klokkevold, 2006 Unsurpassed in its authority and scope the 10th edition of the most widely used periodontics text has been revised to include the most up to date information on new technology and emerging concepts Published for the first time in full color and containing a new section on evidence based decision making new chapters scores of new illustrations and exclusive special features like Science Transfer information boxes this edition reinforces its reputation as the text with the best coverage of periodontology available Comprehensive coverage provides readers with information on the entire spectrum of periodontics in a single volume Unique approach combining evidence based decision making science transfer and classification nomenclature gives readers an efficient and decisive introduction to material li Chapter outlines at the start of chapters highlight important topics at a glance Extensive references direct readers to the most current resources available for additional research 6 chapters covering Oral Malodor Host Modulation Agents Recent Advances in Implant Surgical Technology Levels of Clinical Significance Diagnostic Imaging for the Implant Patient and Periodontal Treatment in Practice 16 completely revised rewritten chapters bring forth the latest cutting edge information on dozens of periodontal topics Section on Evidence Based Decision Making provides readers with an in depth introduction to evidence based decision making accessing evidence and implementing evidence based decisions in clinical practice Science Transfer boxes with commentary from leading periodontists appear in every chapter to provide scientific basis for clinical procedures Over 2 300 full color illustrations and pictures provide readers with color accurate images for easier comprehension of specific conditions and treatments

**Periodontal Medicine** Louis F. Rose, 2000 Univ of Pennsylvania Philadelphia Explores the complex tie between the periodontium and systemic disease Discusses ways in which system conditions and their treatment affect dental health Topics include evaluation genetics cardiovascular and respiratory disease tobacco use diabetes and more For clinicians CD ROM contains text and illustrations Licensing is not cited

*Quintessence International* ,2008      *Journal of Gastroenterology* ,1998

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