

# SatelliteLiterature



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PMID: 9168119

Score: 100%

**Dimeric association and segmental variability in the structure of human CD4 .**

Wu H / Kwong P D / Hendrickson W A

Journal Article - Research Support, Non-U.S. Gov't - Research Support, U.S. Gov't, P.H.S. (Nature), Published: 29/May/1997, Revised: 15/11/2006

Abstract

CD4 is a co-receptor in the cellular immune response . It increases the avidity of association between a T cell and an antigen-presenting cell by interacting with non-polymorphic portions of the complex between class II major histocompatibility complex (MHC) and T-cell receptor (TCR) molecules, and it contributes directly to signal transduction through its cytoplasmic association with the lymphocyte kinase Lck . CD4 also serves as the high-affinity receptor for cellular attachment and entry of the human immunodeficiency virus (HIV) . The extracellular portion of CD4 comprises four immunoglobulin-like domains (D1-D4) . This part of human CD4 (residues 1-369) has been characterized as a recombinant soluble protein (sCD4), and crystal structures have been described for the human D1D2 fragment and for the rat D3D4 fragment . We have now determined the structures of intact sCD4 in three crystal lattices . These structures have a hinge-like variability at the D1D2 to D3D4 junction that might be important in immune recognition and HIV fusion, and a common dimeric association through D4 domains . Dynamic light scattering measurements and chemical crosslinking of sCD4 corroborate dimerization at high protein concentration . We suggest that such dimers may have relevance as mediators of signal transduction in T cells .

MeSH terms: Animals / Antigens, CD4 (chemistry, genetics, immunology) / CHO Cells / Cricetinae / Cross-Linking Reagents / Crystallography, X-Ray / Dimerization / HIV (immunology) / Humans / Models, Molecular / Molecular Sequence Data / Mutagenesis / Protein Conformation / T-Lymphocytes (immunology)

Chemicals: Antigens, CD4 (0) / Cross-Linking Reagents (0)



Expand

PMID: 18270220

Score: 67,02%

**CD4 mimetic miniproteins: potent anti-HIV compounds with promising activity as microbicides .**

Van Herrewege Yven / Morellato Laurence / Descours Anne / Aerts Laetitia / Michiels Jo / Heyndrickx Leo / Martin Loïc / Vanham Guido

Journal Article - Research Support, Non-U.S. Gov't (1460-2091), Published: ?/Apr/2008, Revised: ????



Expand

PMID: 15326605

Score: 66,31%

**Domain swapping of CD4 upon dimerization .**

Sanejouand Yves-Henri

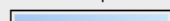
Journal Article (1097-0134), Published: 1/Oct/2004, Revised: ????



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PMID: 15046506

Score: 35,33%

**Sandwich-type germanotungstates: structure and magnetic properties of the dimeric polyoxoanions [M4(H2O)2(GeW9O34)2]12 - (M = Mn2+, Cu2+, Zn2+, Cd2+) .**

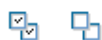
Kortz Ulrich / Nellutla Saritha / Stowe Ashley C / Dalal Naresh S / Rauwald Urs / Danquah Welbeck / Ravot Didier

Journal Article (Inorganic chemistry), Published: 5/Apr/2004, Revised: ????

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Organisms

Tissues

Biological functions

## Genetic variability in iron-related oxidative stress pathways (Nrf2, NQO1, NOS3, and HO-1), iron intake, and risk of postmenopausal breast cancer.



Cancer Epidemiol Biomarkers Prev 2007;Sep,01;16(9):1784-94; (PMID: 17726138)

Hong,Chi-Chen ; Ambrosone,Christine B ; Ahn,Jiyoung ; Choi,Je-Yeob ; McCullough,Marjorie L ; Stevens,Victoria L ; Rodriguez,Carmen ; Thun,Michael J ; Calle,Eugenia E ;

Roswell Park Cancer Institute, Elm & Carlton Streets, Buffalo, NY 14263, USA. Chi-Chen.Hong@roswellpark.org

Cancer epidemiology, biomarkers & prevention : a publication of the American Association for Cancer Research, cosponsored by the American Society of Preventive Oncology (ISSN: 1055-9965)

**Oxidative stress** resulting from excess reactive **oxygen** species and/or deficiencies in antioxidant capabilities may play a role in **breast cancer** etiology. In a nested case-control study of postmenopausal **women** (505 cases and 502 controls) from the American **Cancer** Society Prevention II Nutrition Cohort, we examined relationships between **breast cancer** risk and **genetic polymorphisms** of enzymes involved in the generation and removal of **iron**-mediated reactive **oxygen** species. Using unconditional logistic regression, genetic variations in **Nrf2** (11108C>T), **NQO1** (609C>T), **NOS3** (894G>T), and HO-1 [(GT)(n) dinucleotide length polymorphism] were not associated with **breast cancer** risk in a multivariate model. A significant dose trend (P trend = 0.04), however, was observed for total number of putative "at-risk" alleles (Nrf T, **NQO1** T, NOS T, and **HO-1** LL and LM genotypes), with those carrying three or more at-risk alleles having an odds ratio (OR) of 1.56 [95% confidence interval (95% CI), 0.97-2.51] compared with those having none. When examined in relation to **iron**, carriage of three or more high-risk alleles in the highest tertile of **iron** intake (OR, 2.27; 95% CI, 0.97-5.29; P trend = 0.02; P **interaction** = 0.30) or among users of supplemental **iron** (OR, 2.39; 95% CI, 1.09-5.26; P trend = 0.02; P **interaction** = 0.11) resulted in a greater than 2-fold increased risk compared with **women** with no high-risk alleles. Increased risk was also observed among supplement users with the **HO-1** LL or LM genotypes (OR, 1.56; 95% CI, 1.01-2.41; P **interaction** = 0.32) compared with S allele carriers and MM genotypes combined. These results indicate that **women** with genotypes resulting in potentially higher levels of **iron**-generated **oxidative stress** may be at increased risk of **breast cancer** and that this association may be most relevant among **women** with high **iron** intake.

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### HIV / AIDS

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[www.aids-info.ch](http://www.aids-info.ch)

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### Australian Real Estate

Survey: What effect will the financial crisis have on property?  
[AustralianPropertyInvestor.com](http://AustralianPropertyInvestor.com)





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## Dimeric association and segmental variability in the structure of human CD4.

[Wu H](#), [Kwong PD](#), [Hendrickson WA](#).

Department of Biochemistry and Molecular Biophysics, Columbia University, New York, New York 10032, USA.

CD4 is a co-receptor in the cellular immune response. It increases the avidity of association between a T cell and an antigen-presenting cell by interacting with non-polymorphic portions of the complex between class II major histocompatibility complex (MHC) and T-cell receptor (TCR) molecules, and it contributes directly to signal transduction through its cytoplasmic association with the lymphocyte kinase Lck. CD4 also serves as the high-affinity receptor for cellular attachment and entry of the human immunodeficiency virus (HIV). The extracellular portion of CD4 comprises four immunoglobulin-like domains (D1-D4). This part of human CD4 (residues 1-369) has been characterized as a recombinant soluble protein (sCD4), and crystal structures have been described for the human D1D2 fragment and for the rat D3D4 fragment. We have now determined the structures of intact sCD4 in three crystal lattices. These structures have a hinge-like variability at the D1D2 to D3D4 junction that might be important in immune recognition and HIV fusion, and a common dimeric association through D4 domains. Dynamic light scattering measurements and chemical crosslinking of sCD4 corroborate dimerization at high protein concentration. We suggest that such dimers may have relevance as mediators of signal transduction in T cells.

PMID: 9168119 [PubMed - indexed for MEDLINE]

<http://www.ncbi.nlm.nih.gov/pubmed/9168119>









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## Dimeric association and segmental variability in the structure of human [CD4](#) .

**Wu H, Kwong PD, Hendrickson WA**

Department of Biochemistry and Molecular Biophysics, Columbia University, New York, New York 10032, USA.

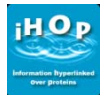
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Nature (1997)

PMID: [9168119](#)

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Annotate web page	Upload text	API	Interactive markup
	X	X	
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# hack, hack, hack (well, not so much)

- Develop sample clients for BCMS
- Develop clients for iHop Web services
- Develop clients for Knewco Web services
- Develop Taverna Workflows
- Convert BCMS and iHOP to ieXML
- Generate ieXML XSLT for visualization

*We take most of  
these as homework!*

# Collaborative annotation

Wired-Marker Home : Firefox free-addon to bookmark, collect, organize and share the information -...

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### Use as an "indelible highlighter" on Web pages

By using the highlighter settings in Wired-Marker, you can customize the color and style of the highlighter (with which the compiled and saved sections in a Web page are highlighted) associated with a folder. These highlighted sections remain visible on the page when you revisit it.

### Use as an electronic bookmark

You can use Wired-Marker to bookmark specific positions in a Web page by using XPath instead of only using the URL. Often, the information that you require is a single phrase or a single keyword, even in an important document. By using Wired-Marker, you can directly jump to the position of interest in a long page or paragraph. Since you can create an infinite combination of highlighter colors and styles, you can categorize the compiled information according to the color and style in a manner similar to the use of multicolored bookmarks.

### Use as a scrapbook folder

Sections and pictures are automatically copied when they are highlighted. Thus, a scrapbook is automatically generated without any additional operations. Unlike the usual copy-and-paste operation, the URL and coordinate in a page are also recorded; thus, the source of the item in the bookmark is clear, and this facilitates the organization of the collected data. You can also add notes to the bookmarked items.

### Use as a structural organization tool for information

You can increase the number of highlighter colors and styles corresponding to different

Local folder  
Marker  
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Confirmation Late  
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scrapbook  
source of the i...  
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Title  
Most Important

Note  
HYPER-ANCHOR

Done

<http://www.wired-marker.org>

Vex-Xconc - GENIAevent2/NFkB2\_5/9211933.xml - Eclipse Platform

File Edit Navigate Search Project Document Run Window Help

Vex Resource N 10064064.xml 9211933.xml

9211933.xml

THEME : T38  
THEME : T41  
In unstimulated THP-1, CRE-binding protein and, to a lesser extent, c-Jun complexes were found to bind to the CRE site.

EVENT E17 (assertion: exist, uncertainty: certain)  
TYPE : Binding  
THEME : T40  
THEME : T41  
In unstimulated THP-1, CRE-binding protein and, to a lesser extent, c-Jun complexes were found to bind to the CRE site.

S8>LPS stimulation increased the binding of c-Jun-containing complexes.

EVENT E18 (assertion: exist, uncertainty: certain)

Properties

Property	Value

Xconc Search

FILE(S) 1483 file(s)  
RETURN ELEMENT eve  
TARGET "\*" ]  
Search Clear Save Load  
AddResult  
SEARCH LIMIT 100000

Xconc Search Result Xconc Selector Editor Vex Error View Search

Check Uncheck CheckAll UncheckAll RevertCheck DeleteChecked Clear Sort

No	Element	Left	Center	Right	..	FileName
1	clueType	... ved in the EMSA and p65-p50	heterodimer	of the NF-kappa B/Rel protein ...	<input type="checkbox"/>	/GENIAevent2/NFkB2_5/919
2	clueType	... Jun complexes were found to	bind	to the CRE site.	<input type="checkbox"/>	/GENIAevent2/NFkB2_5/921
3	clueType	... Jun complexes were found to	bind	to the CRE site.	<input type="checkbox"/>	/GENIAevent2/NFkB2_5/921
4	clueType	LPS stimulation increased the	binding	of c-Jun-containing complexes.	<input type="checkbox"/>	/GENIAevent2/NFkB2_5/921
5	clueType	... , LPS stimulation induced the	binding	of cognate nuclear factors to ...	<input type="checkbox"/>	/GENIAevent2/NFkB2_5/921
6	clueType	... , LPS stimulation induced the	binding	of cognate nuclear factors to ...	<input type="checkbox"/>	/GENIAevent2/NFkB2_5/921

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## Abstract

Sequence-specific binding by the human p53 master regulator is critical to its tumor suppressor activity in response to environmental stresses. p53 binds as a tetramer to two decameric half-sites separated by 0–13 nucleotides (nt), originally defined by the consensus RRRCWWGYYY (n = 0–13) RRRCWWGYYY. To better understand the role of sequence, organization, and level of p53 on transactivation at target response elements (REs) by wild type (WT) and mutant p53, we deconstructed the functional p53 canonical consensus sequence using budding yeast and human cell systems. Contrary to early reports on binding *in vitro*, small increases in distance between decamer half-sites greatly reduces p53 transactivation, as demonstrated for the natural TIGER RE. This was confirmed with human cell extracts using a newly developed, semi-*in vitro* microsphere binding assay. These results contrast with the synergistic increase in transactivation from a pair of weak, full-site REs in the MDM2 promoter that are separated by an evolutionary conserved 17 bp spacer. Surprisingly, there can be substantial transactivation at noncanonical 1/2- (a single decamer) and 3/4-sites, some of which were originally classified as biologically relevant canonical consensus sequences including PIDD and Apaf-1. p53 family members p63 and p73 yielded similar results. Efficient transactivation from noncanonical elements requires tetrameric p53, and the presence of the carboxy terminal, non-specific DNA binding domain enhanced transactivation from noncanonical sequences. Our findings demonstrate that RE sequence, organization, and level of p53 can strongly impact p53-mediated transactivation, thereby changing the view of what constitutes a functional p53 target. Importantly, inclusion of 1/2- and 3/4-site REs greatly expands the p53 master regulatory network.

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Highlights

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Author Summary

Introduction

Results

Discussion

Within human cells, the tumor suppressor p53 is the central node of regulation required to elicit multiple biological responses that include cell cycle arrest and death in response to stress or DNA damage, where mutations in p53 are a hallmark of cancer. As a master regulatory gene, p53 controls the action of target genes within its network by directly interacting with a widely accepted consensus DNA binding sequence