

**Exploitation des bases de données:**  
**Bases de données d'allergènes et IMGT**

**Marie-Paule Lefranc**  
**Université Montpellier II, IGH, CNRS**

**Séminaire dans le cadre de l'INSTITUT REGIONAL DE LA QUALITE ALIMENTAIRE**  
**"LES ALLERGIES"**  
**Montpellier 5 Novembre 2002**



The international ImMunoGeneTics database  
Coordinator: M.-P. Lefranc, Montpellier, France <http://imgt.cines.fr>

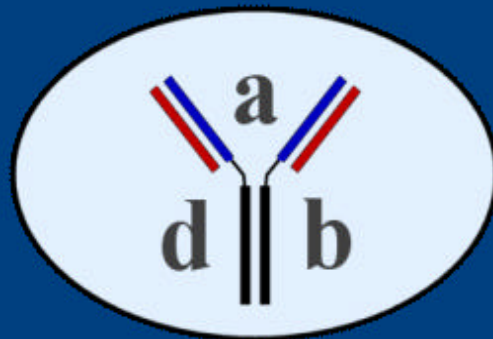


# Bases de données d'allergènes

- 1. The Allergen Database (a d b)**
- 2. Farrp Protein Allergen database (Allergenonline)**
- 3. ExPASy list of allergen sequences (liens sur SWISS-PROT)**
- 4. Allergen Nomenclature (WHO/IUIS)**
- 5. Food Allergen Sequences (Steven Gendel, USDA) (BIFS)**
- 6. Allergen sequence database (Jim Astwood, Monsanto)**
- 7. Protall (réseau de 10 laboratoires européens)**

# The Allergen Database

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A FREELY available multifaceted indexing facility for the retrieval of information on allergens and epitopes

**[Login](#) OR [Register](#) to use the online database**



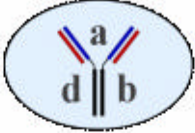
Produced by: The Central Science Laboratory, Sand Hutton, York, UK, YO41 1LZ

Tel: +44 (0) 1904 462000, e-mail [science@csl.gov.uk](mailto:science@csl.gov.uk)

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Signets Adresse : http://www.csl.gov.uk/allergen/Search\_Database2.cfm Infos connexes



# Results

[New Search](#)

---

There were 8 records retrieved

---

**Systematic Name:** [Ara h 1](#)  
**Species:** *Arachis hypogaea*  
**Trivial Name:** Peanut  
**Allergen Type:** Food  
**Description:** Peanut allergen with significant homology with the vicilin seed storage protein family found in most higher plants

---

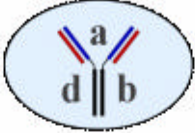
**Systematic Name:** [Ara h 2](#)  
**Species:** *Arachis hypogaea*  
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**Allergen Type:** Food  
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**Allergen Type:** Food  
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Document : chargé

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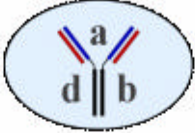
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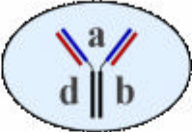
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## Quelles sont les principales protéines allergènes de l'arachide?

- Viciline (réserve) Ara h 1
- Conglutine (réserve) Ara h 2, Ara h 6, Ara h 7
- Glycinine (réserve) Ara h 3, Ara h 4
- Profiline Ara h 5
- Agglutinine

## Quelles sont les principales protéines allergènes de l'arachide?

- |               |           |                           |
|---------------|-----------|---------------------------|
| • Viciline    | (réserve) | Ara h 1                   |
| • Conglutine  | (réserve) | Ara h 2, Ara h 6, Ara h 7 |
| • Glycinine   | (réserve) | Ara h 3, Ara h 4          |
| • Profiline   |           | Ara h 5                   |
| • Agglutinine |           |                           |

Y a-t-il d'autres protéines allergènes nouvellement identifiées?

Entrez-PubMed - Netscape  
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Signets Adresse : http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\_uids=12144563&dopt=Abstract Infos connexes

NCBI PubMed National Library of Medicine NLM

PubMed Nucleotide Protein Genome Structure PopSet Taxonomy OMIM Books

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1: Allergy 2002;57 Suppl 72:88-93 [Related Articles, Links](#)

**online**

**The 18 kDa peanut oleosin is a candidate allergen for IgE-mediated reactions to peanuts.**

Pons L, Chery C, Romano A, Namour F, Artesani MC, Gueant JL.

BACKGROUND: Peanut allergy is one of the five most frequent food allergies in children and in adults. Recently, we purified and evaluated the allergenicity of peanut oleosins, a family of small-sized proteins involved in the formation of peanut oil bodies. METHODS: Allergenicity of the purified native protein and of the recombinant protein was tested by Western blot and by IgE-RIA. RESULTS: We found IgE-binding with oleosin in 3 of 14 sera of patients who had suffered an allergic reaction to peanuts. Two sera reacted weakly against 16-18 kDa proteins corresponding to oleosin monomers, in Western blot. The main reacting bands had a molecular size estimated at approximately 34 kDa, approximately 50 kDa and approximately 68 kDa and could therefore correspond to oleosin oligomers. IgE reactivity was higher in extracts from roasted peanuts. The same phenomenon occurred with crude soybean oil fraction, with two bands of 16.5 and 24 kDa corresponding to monomers, and two bands of 50 kDa and 76 kDa corresponding to dimers and trimers, respectively. The 18 kDa band was observed in the 3 Western blots of a membrane-enriched fraction of recombinant oleosin produced in the Sf9-baculovirus expression system (performed with the 3 patient sera). CONCLUSIONS: We have characterized a new

Document : chargé

## Quelles sont les principales protéines allergènes de l'arachide?

- |               |           |                           |
|---------------|-----------|---------------------------|
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| • Conglutine  | (réserve) | Ara h 2, Ara h 6, Ara h 7 |
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| • Profiline   |           | Ara h 5                   |
| • Agglutinine |           |                           |

## Y a-t-il d'autres protéines allergènes nouvellement identifiées?

- Oléosine

## Est-ce que les séquences des protéines allergènes sont connues?

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Farrp Database Welcome - Netscape

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Signets Adresse : <http://allergenonline.com/default.asp> Infos connexes

FASTA Search - Off-Line, Database version 1.02 Today's date: Monday, November 04, 2002

**Farrp**  
Allergen Database

Farrp Database Home  
Login  
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View Allergen List

Search with FASTA  
Newsletter  
Contact us

10010010  
01100110  
00110100

*Searchable Farrp Protein Database*

Customer Service

Thank you for visiting Farrp allergen database. We offer you the opportunity to:

- View a complete list of protein allergens
- Search our allergen database
- FASTA search

If you would like to search our database we will ask you to [register](#) with us.

There are currently 726 registered users.

The FARRP Protein Allergen Database contains a list of publicly known allergens and is not meant to be used as a resource of clinical data relating to allergy. A great resource for allergy related issues is the American Academy of Allergy, Asthma and

If you have any questions, comments, or concerns about allergenonline.com please use our email support, and one of our customer service representatives will get back to you within a 24-hour period.

**Member Login**

E-Mail Address:

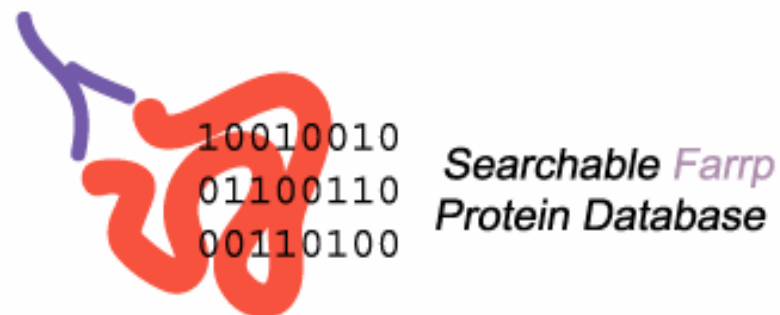
Password:

Login Reset

**farrp**

Official site of the Food Allergy Research and Resource Program  
[www.farrp.org](http://www.farrp.org)

<http://allergenonline.com/default.asp>



Total number of records: 9

Species	Common Name	Allergen Name	Comments	Accession No.	Amino Acid Lengh
Arachis hypogeeae	Peanut	Ara h 1	Vicilin, clone P17	<a href="#">P43237</a>	614
Arachis hypogeeae	Peanut	Ara h 1	Vicilin, clone P41b	<a href="#">P43238</a>	626
Arachis hypogeeae	Peanut	Ara h 2	Conglutin	<a href="#">AAK96887</a>	156
Arachis hypogeeae	Peanut	Ara h 3	Glycinin	<a href="#">AAC63045</a>	507
Arachis hypogeeae	Peanut	Ara h 4	Glycinin	<a href="#">AAD47382</a>	530
Arachis hypogeeae	Peanut	Ara h 5	Profilin	<a href="#">AAD55587</a>	131
Arachis hypogeeae	Peanut	Ara h 6	similar to conglutin	<a href="#">AAD56337</a>	129
Arachis hypogeeae	Peanut	Ara h 7	Conglutin homolog	<a href="#">AAD56719</a>	160
Arachis hypogeeae	Peanut		Lectin, phytohemagglutinin	<a href="#">S14765</a>	236

Entrez-PubMed - Netscape

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Signets Adresse : [http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list\\_uids=11295663&dopt=Abstract](http://www.ncbi.nlm.nih.gov:80/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=11295663&dopt=Abstract) Infos connexes

NCBI PubMed National Library of Medicine NLM

PubMed Nucleotide Protein Genome Structure PopSet Taxonomy OMIM Books

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1: J Allergy Clin Immunol 2001 Apr;107(4):713-7 [Related Articles, Links](#)

[J Allergy Clin Immunol](#)

**Isolation and molecular characterization of the first genomic clone of a major peanut allergen, Ara h 2.**

Viquez OM, Summer CG, Dodo HW.

Department of Food and Animal Sciences, Alabama A&M University, Normal, AL 35762, USA.

BACKGROUND: Peanuts have been identified as potent food allergens responsible for life-threatening IgE reactions among hypersensitive individuals. With the current increase of peanut allergies, there is an urgent need to molecularly characterize the genes encoding the target proteins and to understand the nature of their regulation. OBJECTIVES: The objectives of this study were to isolate, sequence, and characterize at least one full-length genomic clone encoding the major peanut allergen Ara h 2. METHODS: A peanut genomic library, constructed in a Lambda Fix II vector, was screened with an 80-bp oligonucleotide probe constructed on the basis of the 5' end of a published Ara h 2 cDNA partial sequence. One putative positive lambda clone was isolated, digested with Bam HI to release its 16-kb insert, and confirmed by means of dot blot and Southern hybridization. The positive clone was subcloned in pBluescript SK+ vector, sequenced, and characterized. RESULTS: Sequence analysis revealed a full-length genomic clone with an open reading frame starting with an initiation codon (ATG) at position

Document : chargé

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allergen.txt - Netscape  
Fichier Edition Afficher Aller Communicator Aide

Signets Adresse: <http://www.expasy.org/cgi-bin/lists?allergen.txt> Infos connexes

[ExpASY Home page](#) [Site Map](#) [Search ExpASY](#) [Contact us](#) [SWISS-PROT](#)

[Hosted by SIB Switzerland](#) Mirror sites: [Canada](#) [China](#) [Korea](#) [Taiwan](#) [USA](#)

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SWISS-PROT Protein Knowledgebase  
Swiss Institute of Bioinformatics (SIB); Geneva, Switzerland  
European Bioinformatics Institute (EBI); Hinxton, United Kingdom

---

Description: [Nomenclature and index of allergen sequences](#)  
Name: ALLERGEN.TXT  
Release: 17-Jun-2002

---

A nomenclature system has been established for antigens (allergens) that cause IgE-mediated atopic allergies in humans:

[WHO/IUIS Allergen Nomenclature Subcommittee](#)  
King T.P., Hoffmann D., Loewenstein H., Marsh D.G., Platts-Mills T.A.E., Thomas W.  
ACI News 6/2:38-44(1994).

IUIS/WHO Allergen Nomenclature Subcommittee.  
Bull. World Health Organ. 72:797-806(1994).

See: <http://www.allergen.org/Pub.htm>

Document : chargé



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Signets Adresse : <http://www.expasy.org/cgi-bin/lists?allergen.txt> Infos connexes

```
Alt a 10    DHAL_ALTAL (P42041)
Alt a 11    ENO_ALTAL (Q9HDT3)
Alt a 12    RLA1_ALTAL (P49148)
Amb a 1     MP11_AMBAR (P27759), MP12_AMBAR (P27760), MP13_AMBAR (P27761),
MP14_AMBAR (P28744)
Amb a 2     MPA2_AMBAR (P27762)
Amb a 3     MPA3_AMBEL (P00304)
Amb a 5     MPA5_AMBEL (P02878)
Amb a 6     NLT6_AMBAR (O04004)
Amb p 5     MP5A_AMBPS (P43174), MP5B_AMBPS (P43175)
Amb t 5     MPT5_AMBTR (P10414)
Ani s 3     TPMM_ANISI (Q9NAS5)
Api g 1     ALL1_APIGR (P49372)
Api g 2     ALL2_APIGR (P92918)
Api g 3     CB23_APIGR (P92919)
Api g 4     PROF_APIGR (Q9XF37)
Api m 1     PA2_APIME (P00630)
Api m 2     HUGA_APIME (Q08169)
Api m 3     MEL_APIME (P01501)
Ara h 1     AL11_ARAHY (P43237), AL12_ARAHY (P43238)
Ara h 5     PROF_ARAHY (Q9SQI9)
Ara t 8     PRO1_ARATH (Q42449)
Asp f 1     RNMG_ASPRE (P04389)
Asp f 2     ALL2_ASPFU (P79017)
Asp f 3     PM20_ASPFU (O43099)
Asp f 4     ALL4_ASPFU (O60024)
Asp f 6     SODM_ASPFU (Q92450)
Asp f 7     ALL7_ASPFU (O42799)
Asp f 8     RLA2_ASPFU (Q9UUZ6)
Asp f 12    HS82_ASPFU (P40292)
Asp f 15    AL15_ASPFU (O60022)
Ber e 1     2SS_BEREX (P04403)
Bet v 1     BV1A_BETVE (P15494), BV1B_BETVE (P45431), BV1C_BETVE (P43176),
BV1D_BETVE (P43177), BV1E_BETVE (P43178), BV1F_BETVE (P43179),
BV1G_BETVE (P43180), BV1J_BETVE (P43183), BV1K_BETVE (P43184),
BV1L_BETVE (P43185), BV1M_BETVE (P43186)
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Signets Adresse : <http://www.allergen.org/> Infos connexes

# Allergen Nomenclature

International Union of Immunological Societies  
Allergen Nomenclature Sub-Committee

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Executive Committee

Allergen Nomenclature Publication

Allergen Nomenclature Editorial

List of Allergens

List of Isoallergens

New Allergen Form

Web master  
[jorgen.larsen@inet.uni2.dk](mailto:jorgen.larsen@inet.uni2.dk)

Web-site sponsored by  
**ALK ABELLO**

Applet fphover running



List - Netscape

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Signets Adresse : http://www.allergen.org/List.htm Infos connexes

<i>Sinapis alba</i>					
yellow mustard	Sin a 1	2S albumin	14	C	120
<i>Glycine max</i>					
soybean	Gly m 1	HPS	7	P	120A
	Gly m 2		8	P	A57106
	Gly m 3	profilin	14	C	see list of isoallergens
<i>Arachis hypogaea</i>					
peanut	Ara h 1	vicilin	63.5	C	L34402
	Ara h 2	conglutin	17	C	L77197
	Ara h 3	glycinin	60	C	AF093541
	Ara h 4	glycinin	37	C	AF086821
	Ara h 5	profilin	15	C	AF059616
	Ara h 6	hom: conglutin	15	C	AF092846
	Ara h 7	hom: conglutin	15	C	AF091737
<i>Lens culinaris</i>					
lentil	Len c 1	vicilin	16	P	121
	Len c 2	seed biotinylated prot.	66	P	121
<i>Actinidia chinensis</i>					
kiwi	Act c 1	cysteine protease	30	P	P00785
<i>Capsicum annuum</i>					
bell pepper	Cap a 1w	osmotin-like protein	23	C	AJ297410
	Cap a 2	profilin	14	C	AJ417552
<i>Lycopersicon esculentum</i>					

Document : chargé

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foodallr-working6 - Netscape

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Signets Adresse : <http://www.iit.edu/~sgendel/foodallr.htm> Infos connexes

## Food Allergen Sequences (Release 3)

Return to Food Allergy Page
Return to BIFS Home Page

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These data are **updated** from the publication: [Gendel, Steven M. \(1998\) Sequence Databases for Assessing the Potential Allergenicity of Proteins Used in Transgenic Foods. Advances in Food and Nutrition Research 42; 63-92.](#)

The following table presents the accession numbers for known food allergens in each of three major databases:

SP = [SwissProt](#) (This column includes accessions in the TrEMBL database).

PIR = [Protein Identification Resource](#)

Entrez - Protein accessions available through [Entrez](#) at the National Center for Biotechnology Information.

Accessions listed on the same line contain identical sequences - accessions listed on different lines contain different sequences even if they are for the same gene. In a few cases, several accessions in one database must be combined to create a complete sequence. This is indicated by listing multiple accessions with a + sign.

A note on pollen allergens - To avoid confusion and duplication, all proteins expressed in food plants are listed in the food allergen database. In some cases, closely related pollen allergens also occur in non-food plants, and these proteins are listed in the non-food allergen database.

Species	Protein	Allergen Name	SW Accession	PIR Accession	ENTREZ Accession	Refs.	Notes
ANIMALS							
Abalone	Tropomyosin		<a href="#">Q9GZ71</a>		<a href="#">AAG08987</a>	1, 20	

Document : chargé

foodallr-working6 - Netscape

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Signets Adresse : <http://www.iit.edu/~sgendel/foodallr.htm> Infos connexes

Papaya	Papain		<a href="#">P00784</a>	<a href="#">A26466</a>	<a href="#">AAB02650</a>	2, 4, 7	Coding?
Parsley			<a href="#">Q40795</a>		<a href="#">CAA67246</a>	1	
Pea			<a href="#">Q41043</a>	<a href="#">S53082</a>	<a href="#">CAA59470</a>	1	
Peach	Lipid Transfer	Pru p 1	<a href="#">F81402</a>			1	
	Lipid Transfer	Pru p 1	<a href="#">Q9LED1</a>		<a href="#">CAB96876</a>	1	
Peanut	vicilin	Ara h 1	<a href="#">P43238</a>		<a href="#">AAB00861</a>	2, 4, 6, 7	
	vicilin	Ara h 1	<a href="#">P43237</a>		<a href="#">AAA60336</a>	2, 4, 6, 7	
	agglutinin			<a href="#">A03364</a>		2	
	agglutinin		<a href="#">P02872+</a>	<a href="#">S24044</a>	<a href="#">AAB22817</a>	2	Coding?
	agglutinin				<a href="#">AAA74575</a>	2	
	agglutinin				<a href="#">AAA74576</a>	2	
	arachin		<a href="#">P04149</a>	<a href="#">A03350</a>		3, 4, 6, 7	
	arachin		<a href="#">P20780</a>	<a href="#">JK0226</a>		3, 4, 6, 7	
		Ara h 2	<a href="#">AAK96887</a>		<a href="#">AAK96887</a>	1	
	Glycinin	Ara h 3	<a href="#">O82580</a>		<a href="#">AAC63045</a>	1	
	Glycinin	Ara h 4	<a href="#">Q9SQH7</a>		<a href="#">AAD47382</a>	1	
	Profilin	Ara h 5	<a href="#">Q9SQI9</a>		<a href="#">AAD55587</a>	1	
		Ara h 6	<a href="#">Q9SQG5</a>		<a href="#">AAD56337</a>	1	
		Ara h 7	<a href="#">Q9SQH1</a>		<a href="#">AAD56719</a>	1	
Pear	PrP	Pyr c 1	<a href="#">O65200</a>		<a href="#">AAC13315</a>	1, 16	

Document : chargé

# Bases de données d'allergènes

1. **The Allergen Database (a d b)**
2. **Farrp Protein Allergen database (Allergenonline)**
3. **ExPASy list of allergen sequences (liens sur SWISS-PROT)**
4. **Allergen Nomenclature (WHO/IUIS)**
5. **Food Allergen Sequences (Steven Gendel, USDA) (BIFS)**
6. **Allergen sequence database (Jim Astwood, Monsanto)**
7. **Protall (réseau de 10 laboratoires européens)**

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**PROTALL - Netscape**

Fichier Edition Affichage Aller Communicator Aide

Signets Adresse : <http://www.ifm.bbsrc.ac.uk/protall/> Infos connexes

# Welcome to Protall

An EU funded network of over 30 scientists studying the problems of food allergy



- ▶ introduction
- ▶ about food allergy
- ▶ PROTALL database
- ▶ links
- ▶ updates & newsletters
- ▶ project objectives
- ▶ co-ordination team
- ▶ working groups
- ▶ project partners
- ▶ contact us

**For PROTALL Partners only**

*Food allergens of plant origin - the relationship between allergenic potential and biological activity*

Document : chargé



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Food	Allergen (if specified)	View All data	Biochemical data
Brazil nut <i>Bertholletia excelsa</i>	Ber e1	<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Cashew <i>Anacardium occidentale</i>		<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Coconut <i>Cocos nucifera</i>		<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Lupin <i>Lupinus Albus</i>		<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Peanut; ground nuts; monkey nuts <i>Arachis hypogea</i>	Ara h 1	<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Peanut; ground nuts; monkey nuts <i>Arachis hypogea</i>	Ara h 2, Ara h 6, Ara h 7	<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Peanut; ground nuts; monkey nuts <i>Arachis hypogea</i>	Ara h 3 and Ara h 4	<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Peanut; ground nuts; monkey nuts <i>Arachis hypogea</i>	Ara h 5	<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Peanut; ground nuts; monkey nuts <i>Arachis hypogea</i>	Agglutinin	<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Soybean, Soya <i>Glycine max</i>	Conglycinin	<a href="#">View All data</a>	<a href="#">Biochemical data</a>
Soybean, Soya		<a href="#">View All data</a>	<a href="#">Biochemical data</a>

Document : chargé

**PROTALL - Netscape**

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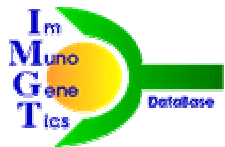
<b>number</b>	
<b>Molecular weight</b>	17,300
<b>Allergen epitopes</b>	<p>Epitopes of Ara h 2 were recognised are as follows:</p> <ul style="list-style-type: none"> <li>15-HASARQQWEL-24</li> <li>21-QWELQGDR-28</li> <li>27-DRRCQSQLER-36</li> <li>39-LRPCEQHLMQ-48</li> <li>49-KIQRDEDS-56</li> <li>59-RDPYSP-64</li> <li>65-SQDPYSPS-72</li> <li>118-LQGRQQ-122</li> <li>127-KRELRN-132</li> <li>143-QRCDLVE-150</li> </ul> <p>(Stanley et al 1997).</p>
<b>Allergen stability</b>	Not known
<b>Nature of main cross-reacting proteins</b>	
<b>Allergen properties &amp; function in plant</b>	Ara h 2 corresponds to delta conglutin, which is a member of the 2S albumin family. It is a glycoprotein with a pI of 5.7 which is thought to act as a storage protein. Two other peanut allergens, Ara h 6 and 7, have been identified which are homologous with Ara h 2. Whilst Ara h 2 is considered to be a major allergen, Ara h 6 and 7 are considered to be minor, being recognised by 38 and 435 of peanut allergic sera respectively (Kleber-Janke et al 1999)
<b>Allergen purification</b>	
<b>Biochemical references</b>	<p>Burks AW, Williams LW, Connaughton C, Cockrell G, O'Brien T, Helm RM (1992) Identification and characterisation of a second major peanut allergen, Ara h II, with use of sera with atopic dermatitis and positive peanut challenge. <i>J Allergy Clin Immunol</i> 96: 1715-1721.</p> <p>Kleber-Janke T, Cramer R, Appenzeller U, Schlaak M, Becker W-M (1999) Selective cloning of peanut allergens, including profilin and 2S albumins, by phage display technology. <i>Int Arch Allergy Immunol</i> 119:265-274.</p> <p>Stanley JS, King N, Burks AW, Huang SK, Sampson H, Cockrell G, Helm RM, West CM, Bannon GA (1997) Identification and mutational analysis of the immunodominant IgE epitopes of the major peanut allergen Ara h 2 <i>Arch Biochem Biophys</i> 342: 244-253.</p>
<b>Notes</b>	The C-terminal region of Ara h 7 (AF091737, Q9SQH1) shows a frameshift relative to Ara h 2 and Ara h 6

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IMGT/LIGM-DB Consultation module v3 - Netscape


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Signets Adresse : http://imgt.cines.fr/cgi-bin/IMGTlect.jv Infos connexes

Entrée dans IMGTlect Content-type: text/html

[Help](#) [IMGT Home page](#) [IMGT Marie-Paule page](#) [New search](#)

Created by Marie-Paule Lefranc (CNRS, Montpellier II University, France)  
<http://imgt.cines.fr>



## TAXONOMY AND CHARACTERISTICS SEARCH

**English name of species**

**Nucleic acid type**

any  any  
 DNA **AND**  germline  
 RNA or cDNA  rearranged

**Loci, genes or chains**

**Functionality**

**Structure**

**Specificity**

Click on  to select latine names of [species](#), variable region group and subgroup

Document : chargé



IMGT/LIGM-DB Consultation module v3 - Netscape


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## RESULTS OF YOUR SEARCH

Your selection :

- species (English name) :human
- AND RNA or cDNA sequence
- AND rearranged sequence
- ...AND...
- loci, genes or chains : Ig-Heavy-Epsilon...
- AND functionality : productive
- AND structure : regular

Number of resulting sequences : **50**

### To modify your request

Add new/ other conditions to decrease the number of sequences ("AND")

Add new/ other conditions to increase the number of sequences ("OR")

### To consult the results

Document : chargé



```
247257 [HS202E4 ] H.sapiens mRNA for immunoglobulin variable region (clone 202
247258 [HS202E5 ] H.sapiens mRNA for immunoglobulin variable region (clone 202
247263 [HS203E1 ] H.sapiens mRNA for immunoglobulin variable region (clone 203
247264 [HS203E2 ] H.sapiens mRNA for immunoglobulin variable region (clone 203
247265 [HS203E6 ] H.sapiens mRNA for immunoglobulin variable region (clone 203
247266 [HS203E7 ] H.sapiens mRNA for immunoglobulin variable region (clone 203
247267 [HS203E9 ] H.sapiens mRNA for immunoglobulin variable region (clone 203
247274 [HS204E1 ] H.sapiens mRNA for immunoglobulin variable region (clone 204
247275 [HS204E2 ] H.sapiens mRNA for immunoglobulin variable region (clone 204
292888 [HSZ92888 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292889 [HSZ92889 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292890 [HSZ92890 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292891 [HSZ92891 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292893 [HSZ92893 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292894 [HSZ92894 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292895 [HSZ92895 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292896 [HSZ92896 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292897 [HSZ92897 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
292898 [HSZ92898 ] H.sapiens mRNA for rearranged immunoglobulin VH-CE in peanut
297032 [HSZ97032 ] Homo sapiens rearranged immunoglobulin VH-CE in peanut allerg
297033 [HSZ97033 ] Homo sapiens rearranged immunoglobulin VH-CE in peanut allerg
297034 [HSZ97034 ] Homo sapiens rearranged immunoglobulin VH-CE in peanut allerg
297035 [HSZ97035 ] Homo sapiens rearranged immunoglobulin VH-CE in peanut allerg
297036 [HSZ97036 ] Homo sapiens rearranged immunoglobulin VH-CE in peanut allerg
297037 [HSZ97037 ] Homo sapiens rearranged immunoglobulin VH-CE in peanut allerg
```

Clear selection

- 1 IMGT annotations
- 2 IMGT flat-file
- 3 Coding regions with protein translation
- 4 Catalogue and External References
- 5 Sequence (dump format)
- 6 Sequence (FASTA format)
- 7 Sequence (with 3 reading frames)
- 8 EMBL flat-file
- 9 IMGT/V-QUEST analysis

Software material and data coming from IMGT server may be used for academic research only, provided that it is referred to IMGT, and cited as "IMGT, the international ImmunoGeneTics database <http://imgt.cines.fr:8104> (Initiator and coordinator: Marie-Paule Lefranc, Montpellier,

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## IMGT FLAT-FILE

ID HSZ97033 IMGT/LIGM annotation : **automatic**; RNA; HUM; 432 BP.

XX

AC Z97033;

XX

DT 10-JUL-1997 (Rel. 8, arrived in LIGM-DB )

DT 09-NOV-2001 (Rel. 200145-5, Last updated, Version 4)

XX

DE **Homo sapiens rearranged immunoglobulin VH-CE in peanut allergy (CO 9.1). ;**

DE **RNA; rearranged configuration; Ig-Heavy-Epsilon, regular; functionality**

DE **productive; group IGHV; subgroup HV1.**

XX

KW antigen receptor; immunoglobulin superfamily; Ig; Ig-Heavy;

KW Ig-Heavy-Epsilon; constant; variable; diversity; joining;

KW immunoglobulin.

XX

OS Homo sapiens (human)

OC Eukaryota; Metazoa; Chordata; Vertebrata; Mammalia; Eutheria; Primates;

OC Catarrhini; Hominidae; Homo.

XX

RN [2]

RP 1-432

RA Janezic A.A.L., Chapman C.C.J., Snow R.R.E., Hourihane J.J.O.,

RA Warner J.J.O., Stevenson F.F.K.;

RT ;

RL Submitted (30-JUN-1997) to the EMBL/GenBank/DDBJ databases.

RL Molecular Immunology Group, Tenovus Research Laboratory, Southampton

RL General Hospital, Tremona Road, Southampton, Hampshire SO16 6YD, UK

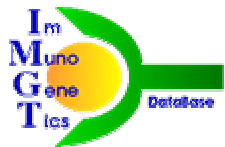
Document: chargé



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Coordinator: M.-P. Lefranc, Montpellier, France <http://imgt.cines.fr>



# Sequence compared with the [Human Ig set](#) from the [IMGT reference directory](#)

## Alignment for V-GENE

Z97033		score	CAGGTGCAGCTGGTGCAGTCTGGGGCT	___	GAGGTGAAGAGGCCTGGGACCTCAGTGAAGGTTTCTGCAAGGCATCTGGATACACCT
<a href="#">L06612</a>	<b>IGHV1-46*03</b>	1335	.....	___	.....A.....G.....
<a href="#">X92343</a>	IGHV1-46*01	1335	.....	___	.....A.....G.....
<a href="#">J00240</a>	IGHV1-46*02	1326	.....	___	.....A.....G.....
<a href="#">X62106</a>	IGHV1-2*02	1173	.....	___	.....A.....G.....C.....T.....
<a href="#">Z12310</a>	IGHV1-2*04	1164	.....	___	.....A.....G.....C.....T.....

## Alignment for D-GENE

Z97033		score	GGGCTCTTGCAGTGGTGGTACCTGCT
<a href="#">J00234</a>	<b>IGHD2-15*01</b>	85	A..A.A...T.....G.....ACTCC
<a href="#">J00233</a>	IGHD2-8*02	58	A..A.A...T.C.....GTA...ATACC
M35648	IGHD2-2*03	49	T..A.A...T...A..ACC.G....ATGCC
X97051	IGHD2-2*02	49	A..A.A...T...A..ACC.G....ATACC
J00232	IGHD2-2*01	49	A..A.A...T...A..ACC.G....ATGCC

## Alignment for J-GENE

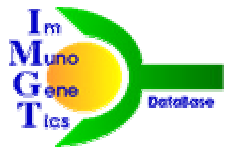
Z97033		score	GGGCTCTTGCAGTGGTGGTACCTGCTACTTCTTTGACTCATGGGGCCAGGGAACCCTGGTCCCCGTCTCCTCAGCCTCCACACAGAGC
X86355	<b>IGHJ4*02</b>	204	.....A.....AC.....A.....
J00256	IGHJ4*01	195	.....A.....AC.....A.....A.....
X86355	IGHJ5*02	183	.....A.A...GG..C...C.C.....A.....



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### Translation

```

<----- F R 1 - I M G T -----
1           5           10           15           20
Q V Q L V Q S G A           E V K R P G T S V K V S
Z97033 CAG GTG CAG CTG GTG CAG TCT GGG GCT ... GAG GTG AAG AGG CCT GGG ACC TCA GTG AAG GTT TCC

----->
                CDR1 - IMGT
                25           30           35           40
C K A S G Y T F T S Y Y           M H W V R Q
Z97033 TGC AAG GCA TCT GGA TAC ACC TTC ACC AGC TAC TAT ... .. . . . ATG CAC TGG GTG CGA CAG

F R 2 - I M G T ----->
                CDR2 - IMGT
                45           50           55           60           65
A P G Q G L E W M G I I N P G G G S K           V
Z97033 GCC CCT GGA CAA GGG CTT GAG TGG ATG GGA ATA ATC AAC CCT GGT GGT GGT AGC AAA ... .. . GTC

----- F R 3 - I M G T -----
                70           75           80           85
Y A Q R F Q           G R L T M T R D T S T S T V Y
Z97033 TAC GCA CAG AGG TTC CAG ... GGC AGA CTC ACC ATG ACC AGG GAC ACG TCC ACG AGC ACA GTG TAT

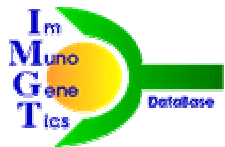
----->
                90           95           100           105           110
M E L S S L R S E D T A V Y Y           C A R Q G S C
Z97033 ATG GAG CTG AGC AGC CTG AGA TCT GAG GAC ACG GCC GTG TAT TAC TGT GCG AGG CAG GGC TCT TGC

CDR3 - IMGT
                115           120           125           130
S G G T C Y F F D S W           G Q G T L V P V S S A
Z97033 AGT GGT GGT ACC TGC TAC TTC TTT GAC TCA TGG GGC CAG GGA ACC CTG GTC CCC GTC TCC TCA GCC
    
```

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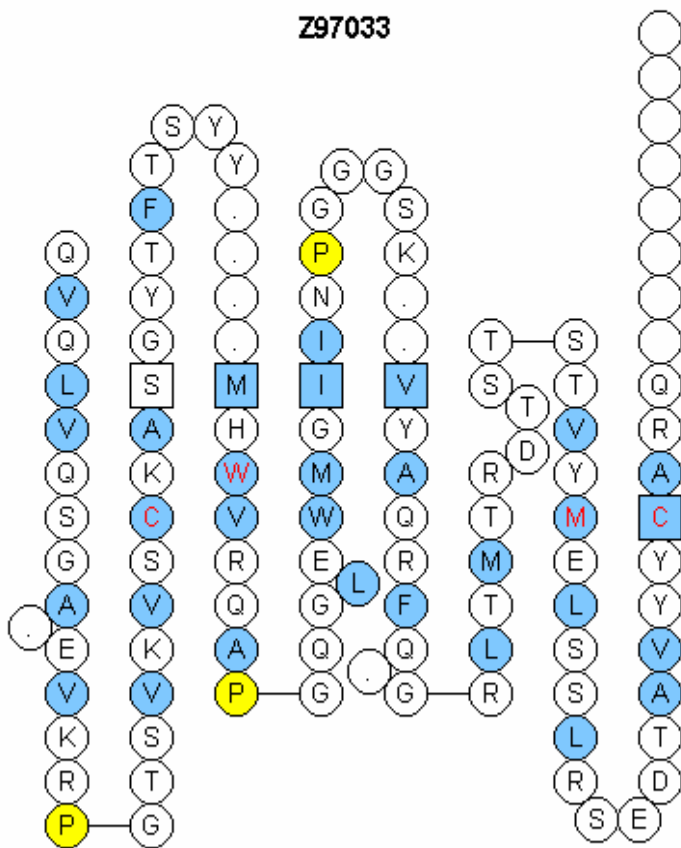
The international ImMunoGeneTics database  
Coordinator: M.-P. Lefranc, Montpellier, France <http://imgt.cines.fr>



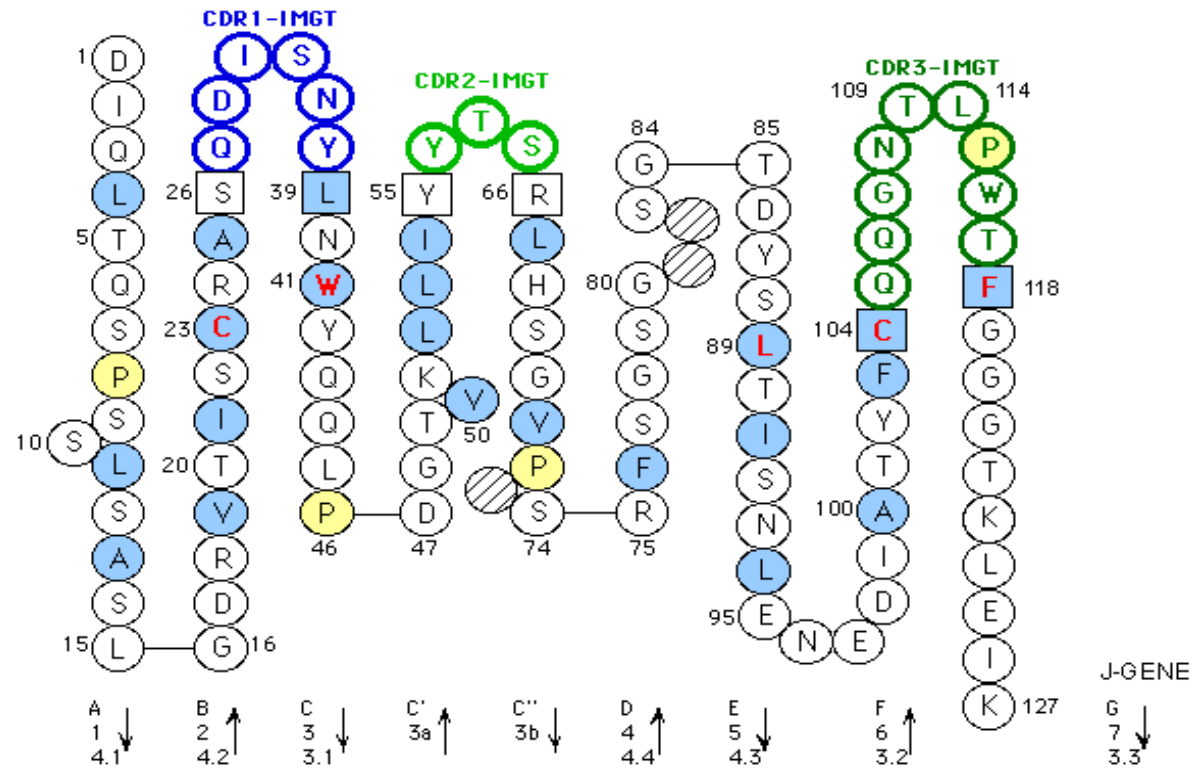
QVQLVQSGA.EVKRPGTSVKVSCKASGYTFTSY...MHWVRQAPGQGLEWMGIINPGGSK..VYAQRFQ.GRLTMRDTSSTVYMELSSLRSEDVAVYCARQ

### Collier de Perles

Z97033

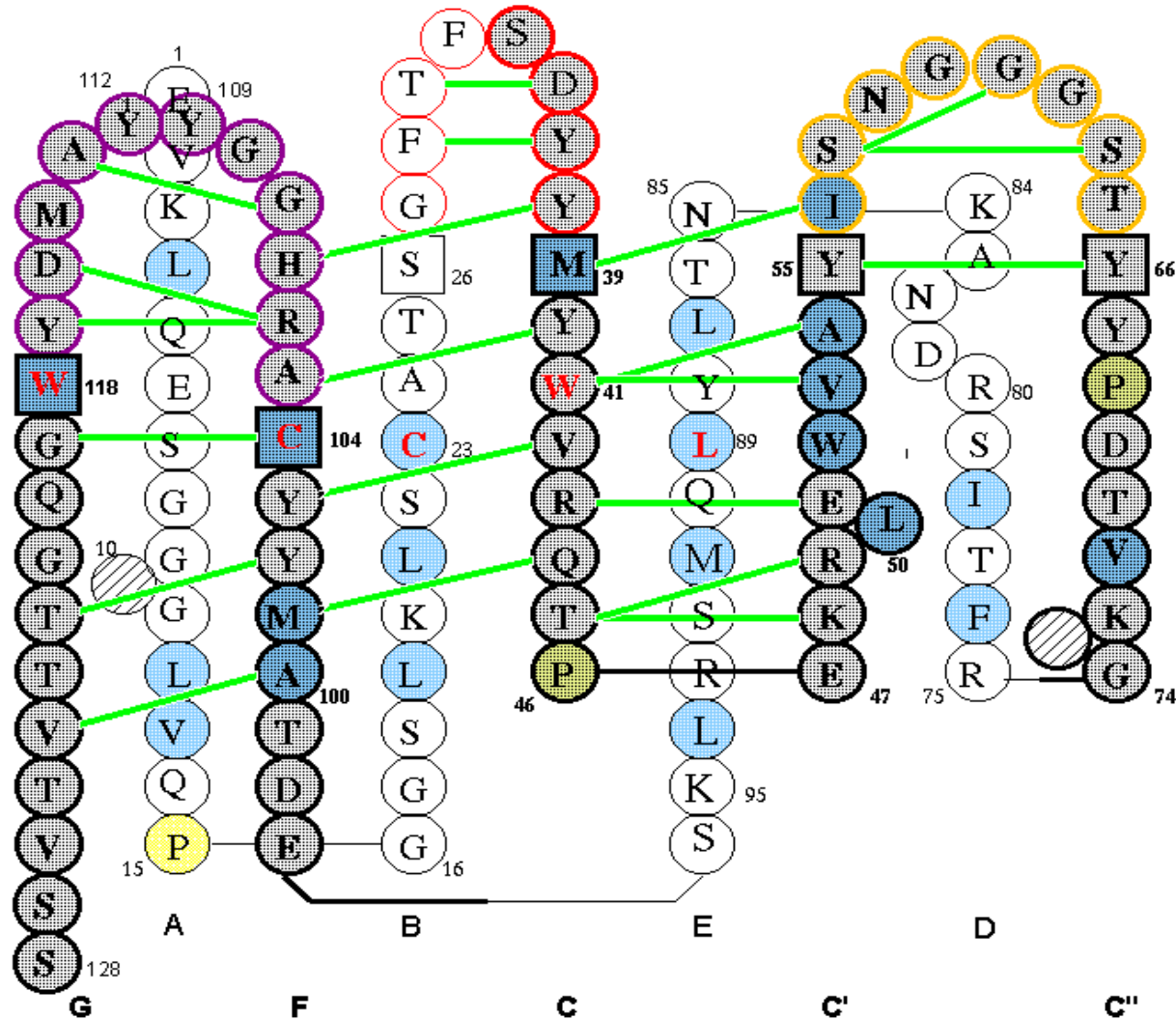


# Collier de Perles: Mouse (*Mus musculus*) IGK V-J REGION from E5.2 Fv (PDB: 1dvf\_C)





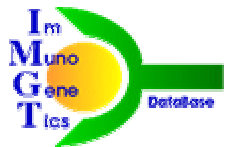
# Collier de Perles: Mouse (*Mus musculus*) IGH V-D-J REGION from 231 (PDB: 1igt\_D)



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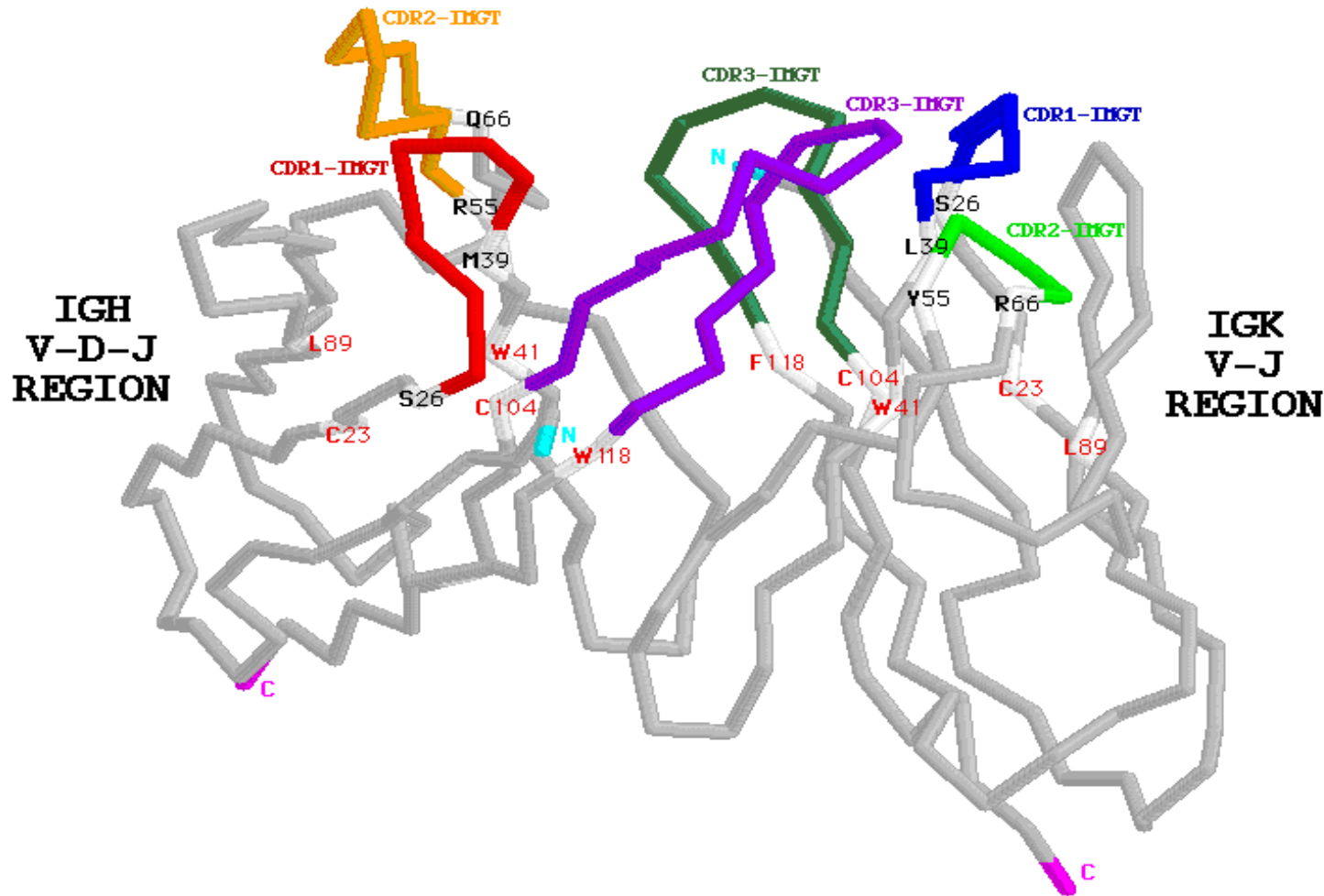
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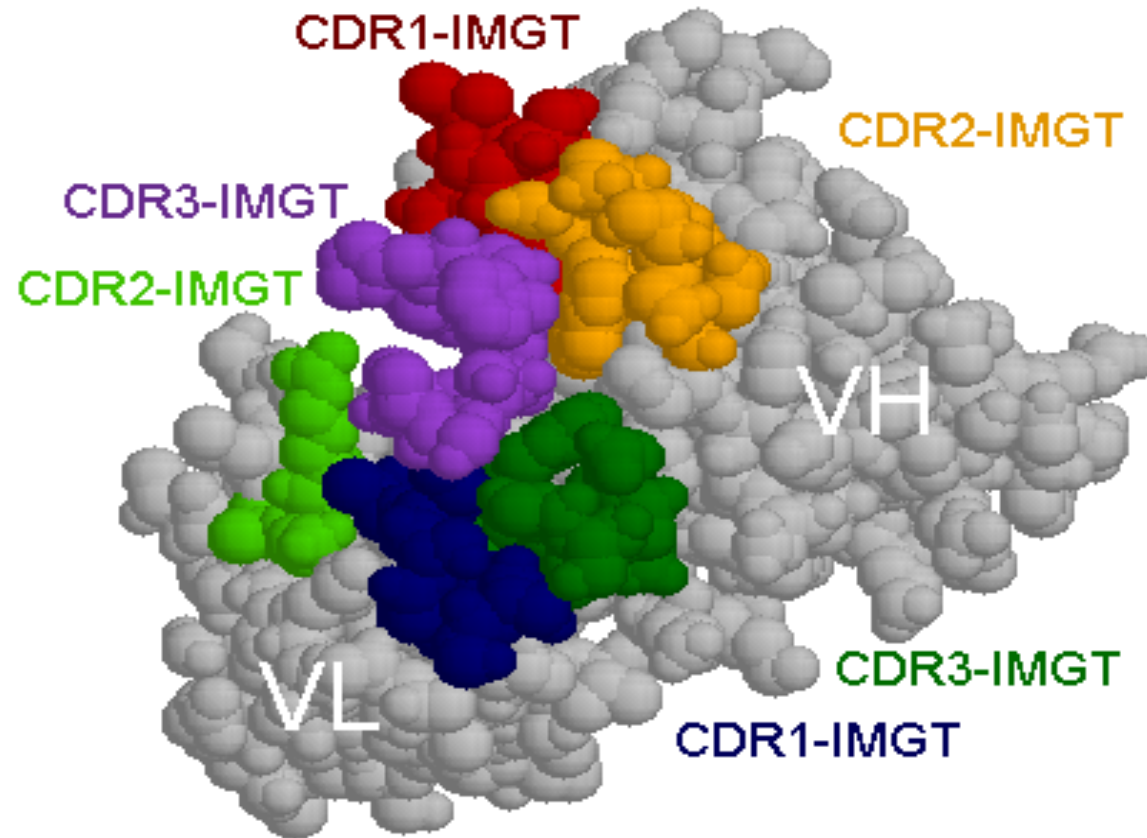
The international ImMunoGeneTics database  
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# 3D representation: Mouse (*Mus musculus*) V-DOMAINS from E5.2 Fv (PDB: 1dvf\_C and 1dvf\_D)



# Representation of part of an immunoglobulin: Fv Fragment



# Perspectives

- Phage displays de banques ADNc pour l'identification d'allergènes
- Détermination des épitopes reconnus par les IgE
- Détermination des épitopes T (peptides présentés par les cellules dendritiques et cellules de Langerhans aux lymphocytes T CD4+)
  
- Séquences d'IgE spécifiques
- Séquences de récepteurs T alpha-beta spécifiques
- Structures tridimensionnelles des allergènes et des récepteurs (IgE)
- Structures tridimensionnelles des IgE et des récepteurs Fc

**IMGT Bloc-notes > Immunology themes > Allergy**

**<http://imgt.cines.fr>**