

# Proteinlere genel bakış ve simülasyonları

# Proteinler

Proteinler birbirlerine amit (ya da peptid) bağı ile bağlanmış amino asit birimlerinden oluşmuş doğal polimerlerdir.

Örümcek ağları, hayvan kılı ve kası, yumurtanın akı ve hemoglobin (vücuttaki oksijeni gerekli yerlere taşıyan molekül) hepsi de proteindir.

Peptidler; aminoasitlerin oligomerleridir ve pek çok biyolojik işlemde önemli işlev görürler.

Örn; İnsülin hormonu bir peptittir ve vücut kan şekerini kontrol eder. Bradikinin kan basıncını ayarlayan, Oksitosin rahim kasılmalarını ve süt salgılanmasını ayarlayan birer peptittir.

Bu nedenle, canlılarda yapı, işlev ve üreme için proteinler, peptitler ve aminoasitler temel maddelerdir.

# Amino Asitler

@Amino asitler, proteinlerin yapı taşıdır.

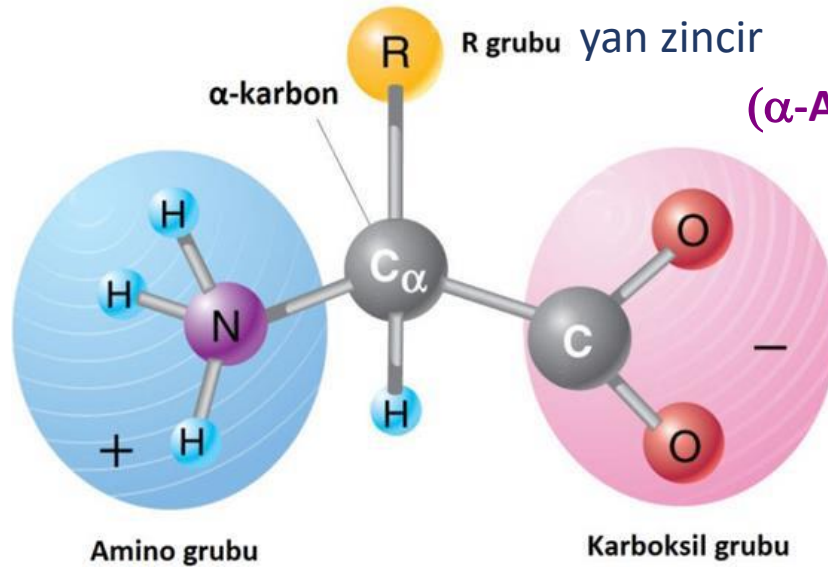
@Proteinlerdeki amino asitler,  $\alpha$ -aminokarboksilli asitlerdir.

@Bu monomerlerin yalnızca yan zincirleri farklıdır.

Yapılarında;

- Amino ( $-\text{NH}_3^+$ ) grubu
- Karboksil ( $-\text{COO}^-$ ) grubu
- Yan zincir ( R )

taşıyan organik bileşiklerdir



# AMİNO ASİTLERİN ADLANDIRILMASI

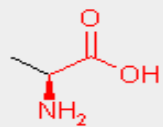
## Amino Asitler:

-Özel isimler (Glisin)

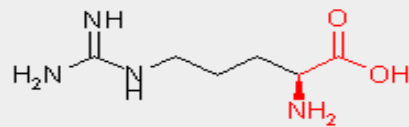
-Üç harflik kısaltmalar (Gly)

-Tek büyük harften oluşan semboller (G)

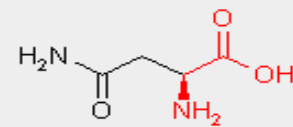
ile gösterilirler



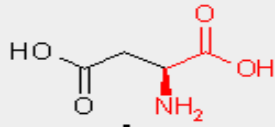
**Ala**  
Alanin



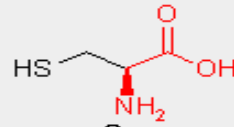
**Arg**  
Arginin



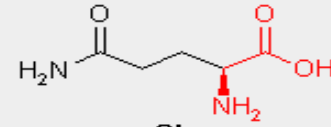
**Asn**  
Asparajin



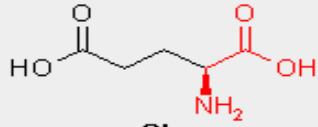
**Asp**  
Aspartik asit



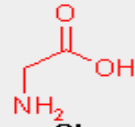
**Cys**  
Sistein



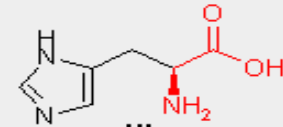
**Gln**  
Glutamin



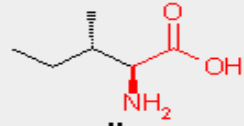
**Glu**  
Glutamik asit



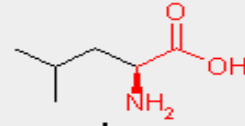
**Gly**  
Glisin



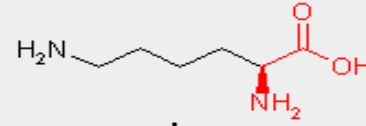
**His**  
Histidin



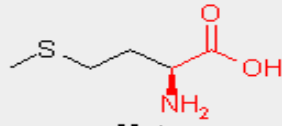
**Ile**  
İzolösin



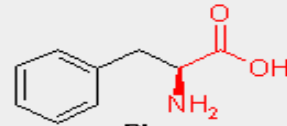
**Leu**  
Lösin



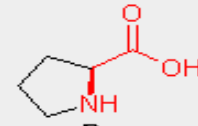
**Lys**  
Lizin



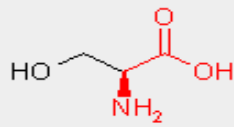
**Met**  
Metionin



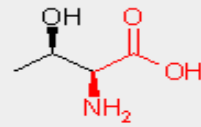
**Phe**  
Fenilalanin



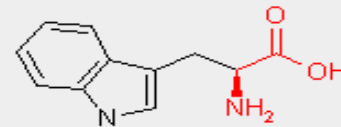
**Pro**  
Prolin



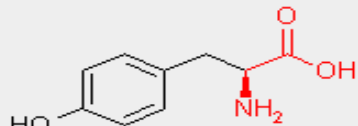
**Ser**  
Serin



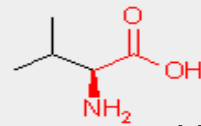
**Thr**  
Treonin



**Trp**  
Triptofan



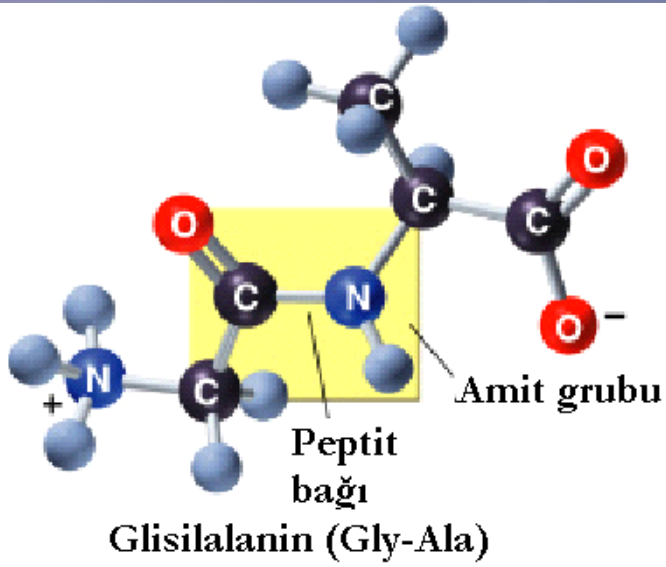
**Tyr**  
Tirozin



**Val**  
Valin

- A Ala Alanin
- C Cys Sistein
- D Asp Aspartik asit (Aspartat)
- E Glu Glutamik asit (Glutamat)
- F Phe Fenilalanin
- G Gly Glisin
- H His Histidin
- I Ile İzolösün
- K Lys Lizin
- L Leu Lösün
- M Met Metionin
- N Asn Asparajin
- P Pro Prolin
- Q Gln Glutamin
- R Arg Arginin
- S Ser Serin
- T Thr Treonin
- V Val Valin
- W Trp Triptofan
- Y Tyr Tirozin

# Peptitler



Peptitlerin oluşumu  
Peptitlerin yapıları



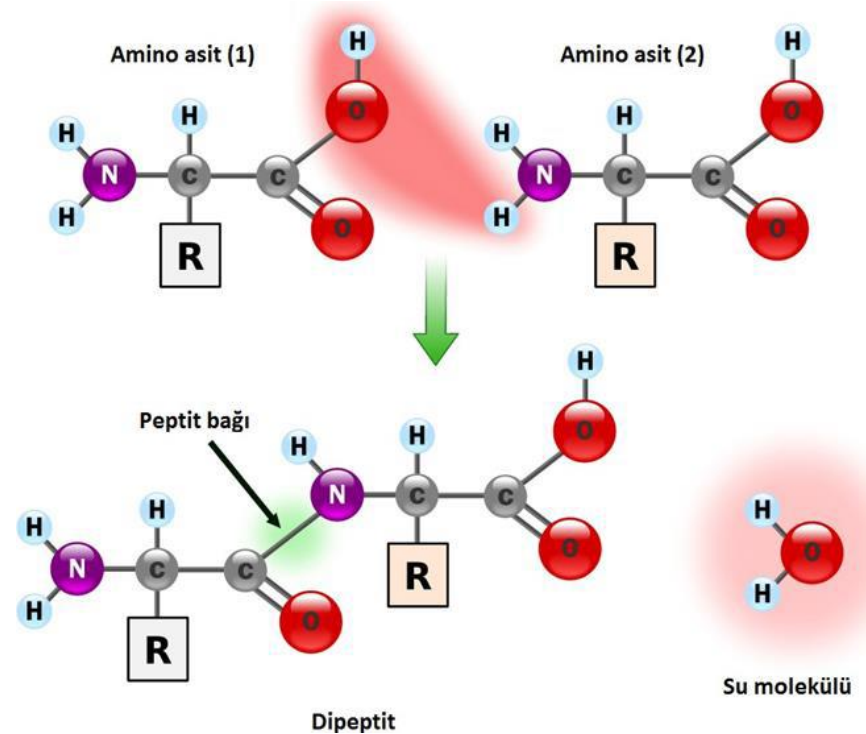
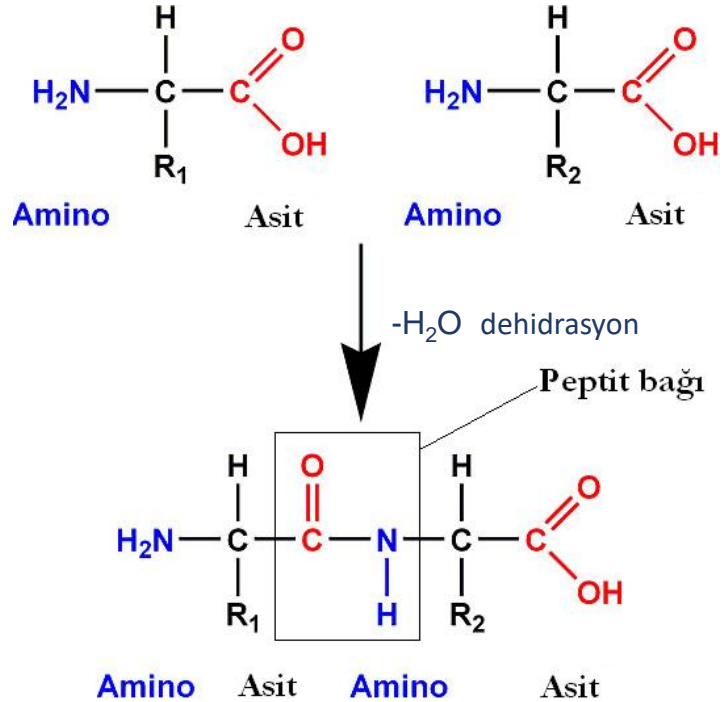


# Peptit bağı

Peptitler/proteinler, amino asit polimerleridir.

Peptit bağı, bir amino asidin karboksilik asit grubu ile diğer bir amino asidin amino grubu arasındaki bir **amit bağıdır**. Oluşan yapı dipeptit'dir.

Birkaç aminoasitin birleşmesiyle oluşan polimere oligopeptit (dipeptit, tripeptit, tetrapeptit, vs), birçok aminoasidin birleşmesiyle oluşan yapıya ise polipeptit denir. Bir peptitin en uçta bulunan serbest amino kısmı amino ucu (N-terminal ucu), diğer uçta bulunan karboksil ucu ise C-terminal uç olarak adlandırılır.





# Proteinlerin 3 Boyutlu Yapıları

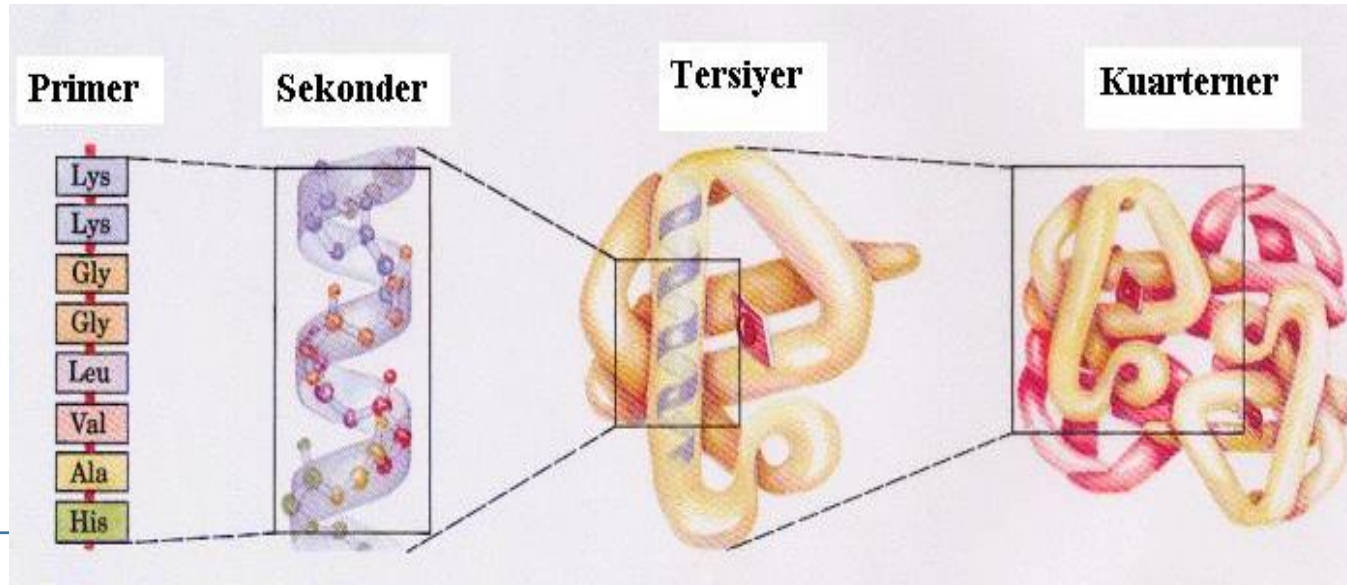
- 50 amino asit veya daha fazla amino asit içeren polipeptitlere **protein** denir.
- Proteinler dört yapısal düzeye sahiptir.

@Birincil yapı (Primer)

@İkincil yapı (Sekonder)

@Üçüncül yapı (Tersiyer)

@Dördüncül yapı (Kuarterner)



# **Protein yapılarının gösterim biçimleri**



172560 Biological Macromolecular Structures Enabling Breakthroughs in Research and Education

Enter search term(s)



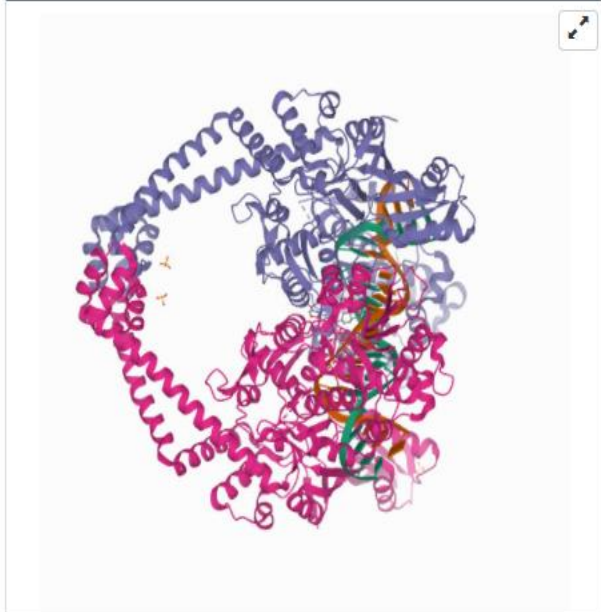
Advanced Search | Browse Annotations



- Structure Summary
- 3D View
- Annotations
- Experiment
- Sequence
- Genome

- Display Files
- Download Files

Biological Assembly 1



3D View: Structure | Electron Density | Ligand Interaction

# 4PLB

Crystal Structure of S.A. gyrase-AM8191 complex

DOI: 10.2210/pdb4PLB/pdb NDB: 4PLB

Classification: ISOMERASE/ISOMERASE Inhibitor/DNA

Organism(s): synthetic construct, Staphylococcus aureus

Expression System: Escherichia coli

Mutation(s): Yes

Deposited: 2014-05-16 Released: 2014-06-18

Deposition Author(s): Lu, J., Patel, S., Soisson, S.

### Experimental Data Snapshot

Method: X-RAY DIFFRACTION

Resolution: 2.69 Å

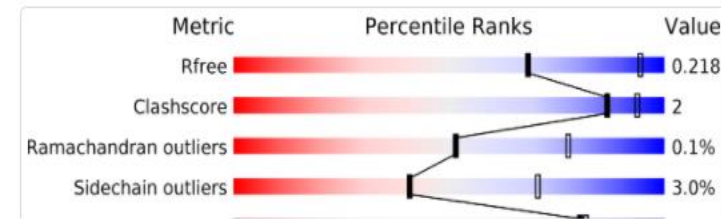
R-Value Free: 0.220

R-Value Work: 0.176

R-Value Observed: 0.179

### wwPDB Validation

3D Report Full Report



Contact Us

## Define and Edit Binding Site

Define Receptor: 4PLB

## Define Site

The cavity method works best if you use [Add Hydrogens](#) first.

From Receptor Cavities

From PDB Site Records

From Current Selection

## Change Site Size

+ Expand - Contract

## Step through Binding Sites.

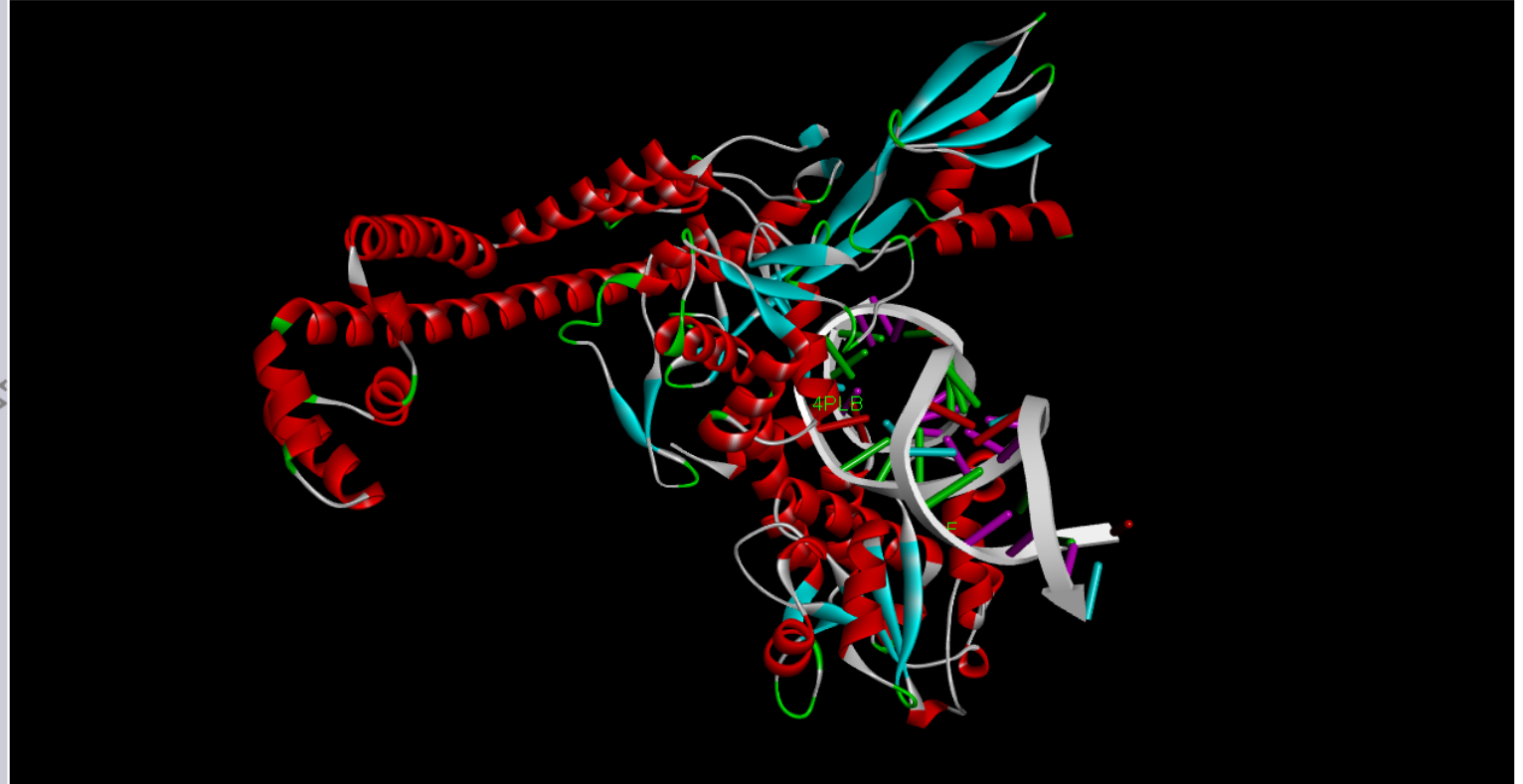


Show/Hide Site Spheres

Show/Hide Residues Outside Spheres

## Analyze Complexes

- <Cell>
- 4PLB
  - E
  - F
  - B
  - D
  - F
  - B
  - D
  - E
  - F
  - B
  - D
  - Hetatm
  - Water
  - Active Sites
  - Protein Groups
  - Nucleic Acid Groups
  - Ligand Groups
  - A 4PLB



4PLB	K	L	A	D	C	S	S	K	S	P	E	E	C	E	I	F	L	V	E	G	D	S	A	G	G	S	T	K	S	G	R	D	S	R	T	Q	A	I	L	P	L	R	G	K	I	L	N	V	E	K	A	R	L	D	R	I	L	N	N	E	I	R	Q	M	I	T	A	F	G	T	G	I	G	G	D	F	D	L	A	K	A	R	Y	H	K	I	V	I	M	T	D	A	D	V	D	G	A	H	I	R	T	L	L	L	T	F	F	Y	R	F	M	R	P
4PLB	L	I	E	A	G	V	Y	I	A	Q	P	P	T	G	Y	K	G	L	G	E	M	N	A	D	Q	L	W	E	T	T	M	N	P	E	H	R	A	L	L	Q	V	K	L	E	D	A	I	E	A	D	O	T	F	E	M	L	M	G	D	V	V	E	N	R	R	Q	F	I	E	D	N	A	V	Y	A	N	E	R	N	I	T	S	E	M	R	E	S	F	L	D	Y	A	M	S	V	I	V	A	R	A	L	P	D	V	R	D	G	L	K	P	V	H	R
4PLB	R	I	L	Y	G	L	N	E	Q	G	M	T	P	D	K	S	Y	K	K	S	A	R	I	V	G	D	V	M	G	K	Y	H	P	H	G	D	S	S	I	Y	E	A	M	V	R	M	A	Q	D	F	S	Y	R	Y	P	L	V	D	G	G	N	F	G	S	M	D	G	D	G	A	A	A	M	R	F	T	E	A	R	M	T	K	I	T	L	E	L	L	R	D	I	N	K	D	T	I	D	F	I	D	N	Y	D	G	N	E	R	E	P	S	V	L	P
4PLB	A	R	F	P	N	L	L	A	N	G	A	S	G	I	A	V	G	M	A	T	N	I	P	P	H	N	L	T	E	L	I	N	G	V	L	S	L	S	K	N	P	D	I	S	I	A	E	L	M	E	D	I	E	G	P	D	F	P	T	A	G	L	I	L	G	K	S	G	I	R	R	A	Y	E	T	G	R	G	S	I	Q	M	R	S	R	A	V	I	E	E	R	G	G	R	Q	R	I	V	V	T	E	I	P	F	Q	V	N	K	A	R	M	I	E

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Show/Hide Site Spheres

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Analyze Complexes

Display Style

Atom Label Protein DNA/RNA Cell Graphics

Display style

Off

Ca wire

Ca stick

Line ribbon

Flat ribbon

Solid ribbon

Tube

Schematic

Display size: 1,00

Coloring

Color by:

Secondary Type

Colors...

Custom:

Ribbon size

Default Ribbon Size

OK Cancel Apply Help



Solid ribbon (İçi dolgulu şerit veya kurdele ; katı şerit vey kübik şerit)

4PLB	K	L	A	D	C	S	S	K	S	P	E	E	C	E	I	F	L	V	E	G	D	S	A	G	G	S	T	K	S	G	R	D	S	R	T	Q	A	I	L	P	L	R	G	K	I	L	N	V	E	K	A	R	L	D	R	I	L	N	N	E	I	R	Q	M	I	T	A	F	G	T	G	I	G	G	D	F	L	A	K	A	R	Y	H	K	I	V	I	M	T	D	A	D	V	D	G	A	H	I	R	T	L	L	L	T	F	F	Y	R	F	M	R	P	
4PLB	L	I	E	A	G	Y	V	I	A	Q	P	T	G	Y	K	G	L	G	E	M	N	A	D	Q	L	W	E	T	T	M	N	P	E	H	R	A	L	L	Q	V	K	L	E	D	A	I	E	A	D	Q	T	F	E	M	L	M	G	D	V	V	E	N	R	R	Q	F	I	E	D	N	A	V	Y	A	N	E	R	N	I	T	S	E	M	R	E	S	F	L	D	Y	A	M	S	V	I	V	A	R	A	L	P	D	V	R	D	G	L	K	P	V	H	R	
4PLB	R	I	L	Y	G	L	N	E	Q	G	M	T	P	D	K	S	Y	K	S	A	R	I	V	G	D	V	M	G	K	Y	H	P	H	G	D	S	S	I	Y	E	A	M	V	R	M	A	Q	D	F	S	Y	R	Y	P	L	V	D	G	Q	N	F	G	S	M	D	G	D	G	A	A	M	R	F	T	E	A	R	M	T	K	I	T	L	L	R	D	I	N	K	D	T	I	D	F	I	D	N	Y	D	G	N	E	R	E	P	S	V	L	P				
4PLB	A	R	F	P	N	L	L	A	N	G	A	S	G	I	A	V	G	M	A	T	N	I	P	P	H	N	L	T	E	L	I	N	G	V	L	S	L	S	K	N	P	D	I	S	I	A	E	L	M	E	D	I	E	G	P	D	F	P	T	A	G	L	I	L	G	K	S	G	I	R	R	A	Y	E	T	G	R	G	S	I	Q	M	R	S	R	A	V	I	E	E	R	G	G	R	Q	R	I	V	V	T	E	I	P	F	Q	V	N	K	A	R	M	I	E



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+ Expand - Contract

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↑ ↓

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Atom Label Protein DNA/RNA Cell Graphics

Display style

Off

Ca wire

Ca stick

Line ribbon

Flat ribbon

Solid ribbon

Tube

Schematic

Display size: 1,00

Coloring

Color by:

Secondary Type

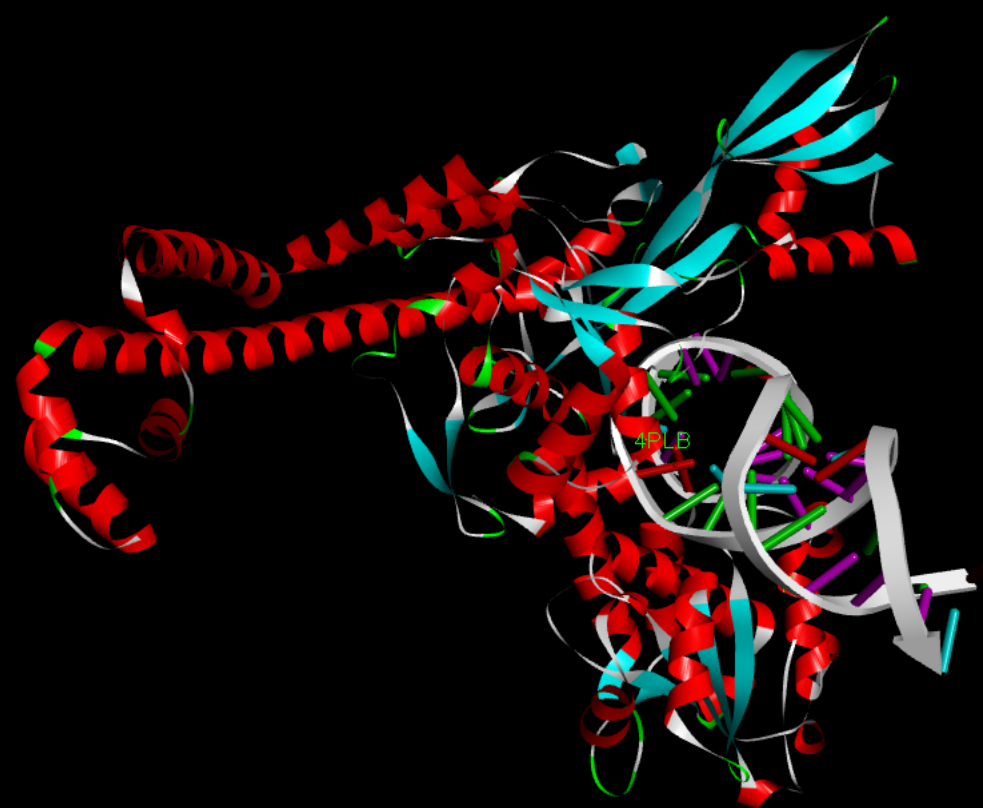
Colors...

Custom:

Ribbon size

Default Ribbon Size

OK Close Apply Help



**Flat ribbon= Yassı veya düz şerit veya kurdele;**

4plb

4plb (1)

4PLB

K L A D C S S K S P E E C E I F L V E G D S A G G S T K S G R D S R T Q A I L P L R G K I L N V E K A R L D R I L N N N E I R Q M I T A F G T G I G G D F D L A K A R Y H K I V I M T D A D V D G A H I R T L L L T F F Y R F M R P

4PLB

L I E A G Y V Y I A Q P P T G Y K G L G E M N A D Q L W E T T M N P E H R A L L Q V K L E D A I E A D Q T F E M L M G D V V E N R R Q F I E D N A V Y A N E R N I T S E M R E S F L D Y A M S V I V A R A L P D V R D G L K P V H R

4PLB

R I L Y G L N E Q G M T P D K S Y K K S A R I V G D V M G K Y H P H G D S S I Y E A M V R M A Q D F S Y R Y P L V D G Q G N F G S M D G D G A A M R F T E A R M T K I T L E L L R D I N K D T I D F I D N Y D G N E R E P S V L P

4PLB

A R F P N L L A N G A S G I A V G M A T N I P P H N L T E L I N G V L S L S K N P D I S I A E L M E D I E G P D F P T A G L I L G K S G I R R A Y E T G R G S I Q M R S R A V I E E R G G G R Q R I V V T E I P F Q V N K A R M I E

4PLB

A R F P N L L A N G A S G I A V G M A T N I P P H N L T E L I N G V L S L S K N P D I S I A E L M E D I E G P D F P T A G L I L G K S G I R R A Y E T G R G S I Q M R S R A V I E E R G G G R Q R I V V T E I P F Q V N K A R M I E

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Display style

Off

Ca wire

Ca stick

Line ribbon

Flat ribbon

Solid ribbon

Tube

Schematic

Display size: 1,00

Coloring

Color by:

Secondary Type

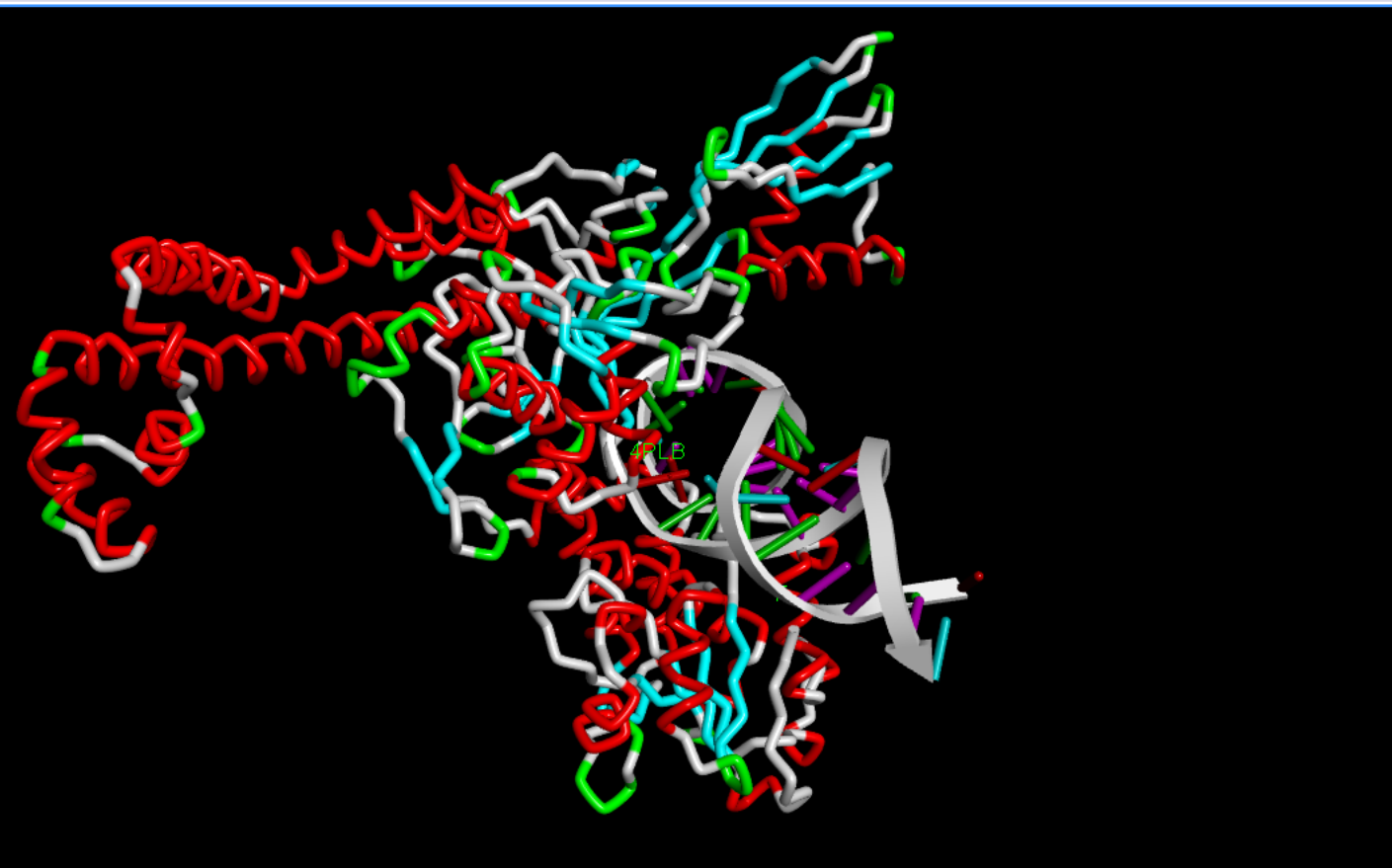
Colors...

Custom:

Ribbon size

Default Ribbon Size

OK Close Apply Help



Tube = Boru

4plb

4plb (1)

4PLB

4PLB

4PLB

4PLB

10	20	30	40	50	60	70	80	90	100	110																																																																																																						
K	L	A	D	C	S	S	K	S	P	E	E	C	E	I	F	L	V	E	G	D	S	A	G	G	S	T	K	S	G	R	D	S	R	T	Q	A	I	L	P	L	R	G	K	I	L	N	V	E	K	A	R	L	D	R	I	L	N	N	E	I	R	Q	M	I	T	A	F	G	T	G	I	G	G	D	F	L	A	K	A	R	Y	H	K	I	V	I	M	T	D	A	D	V	D	G	A	H	I	R	T	L	L	L	T	F	F	Y	R	F	M	R	P	
120	130	140	150	160	170	180	190	200	210	220																																																																																																						
L	I	E	A	G	Y	V	I	A	Q	P	T	G	Y	K	G	L	G	E	M	N	A	D	Q	L	W	E	T	T	M	N	P	E	H	R	A	L	L	Q	V	K	L	E	D	A	I	E	A	D	Q	T	F	E	M	L	M	G	D	V	V	E	N	R	R	Q	F	I	E	D	N	A	V	A	N	E	R	N	I	T	S	E	M	R	E	S	F	L	D	Y	A	M	S	V	I	V	A	R	A	L	P	D	V	R	D	G	L	K	P	V	H	R		
230	240	250	260	270	280	290	300	310	320	330	340																																																																																																					
R	I	L	Y	G	L	N	E	Q	G	M	T	P	D	K	S	Y	K	K	S	A	R	I	V	G	D	V	M	G	K	Y	H	P	H	G	D	S	S	I	Y	E	A	M	V	R	M	A	Q	D	F	S	Y	R	Y	P	L	V	D	G	Q	N	F	G	S	M	D	G	G	A	A	M	R	F	T	E	A	R	M	T	K	I	L	L	R	D	I	N	K	D	T	I	D	F	I	D	N	Y	D	G	N	E	R	E	P	S	V	L	P					
350	360	370	380	390	400	410	420	430	440	450																																																																																																						
A	R	F	P	N	L	L	A	N	G	A	S	G	I	A	V	G	M	A	T	N	I	P	P	H	N	L	T	E	L	I	N	G	V	L	S	L	S	K	N	P	D	I	S	I	A	E	L	M	E	D	I	E	G	P	D	F	P	T	A	G	L	I	L	G	K	S	G	I	R	R	A	Y	E	T	G	R	G	S	I	Q	M	R	S	R	A	V	I	E	E	R	G	G	R	Q	R	I	V	V	T	E	I	P	F	Q	V	N	K	A	R	M	I	E
460	470	480	490	500	510	520	530	540	550	560	570																																																																																																					



Define and Edit Binding Site

Define Receptor: 4PLB

Define Site

The cavity method works best if you use [Add Hydrogens](#) first.

From Receptor Cavities

From PDB Site Records

From Current Selection

Change Site Size

+ Expand - Contract

Step through Binding Sites.

↑ ↓

Show/Hide Site Spheres

Show/Hide Residues Outside Spheres

Analyze Complexes

Display Style

Atom Label Protein DNA/RNA Cell Graphics

Display style

Off

Ca wire

Ca stick

Line ribbon

Flat ribbon

Solid ribbon

Tube

Schematic

Display size: 1,00

Coloring

Color by:

Secondary Type

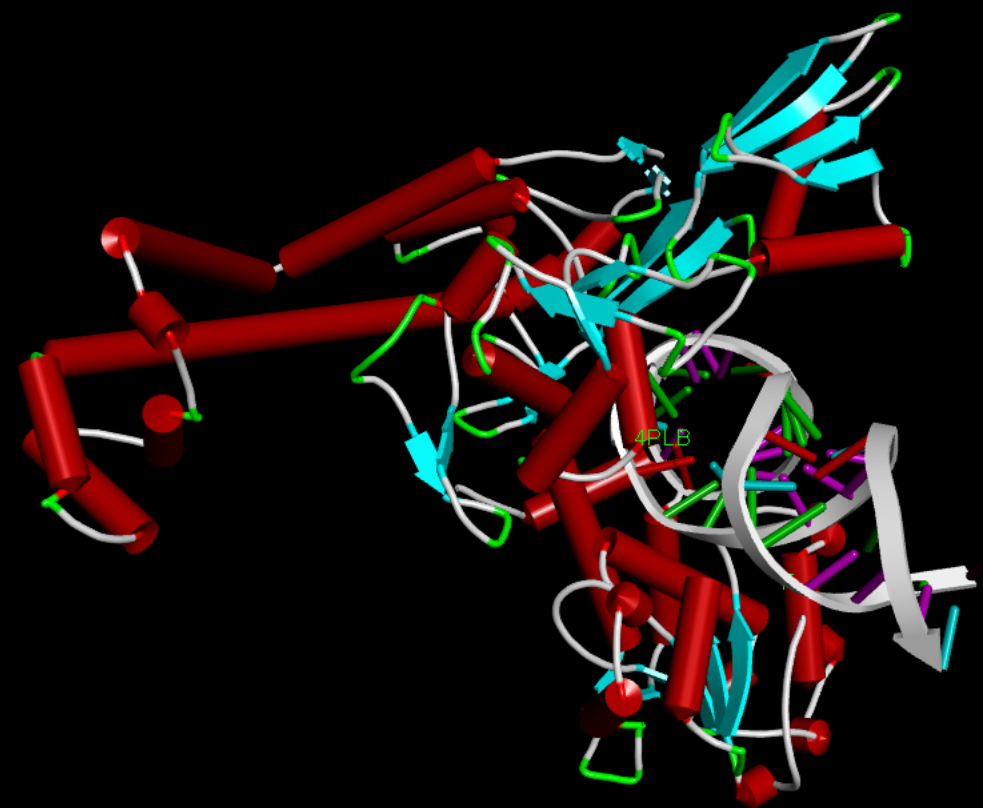
Colors...

Custom:

Ribbon size

Default Ribbon Size

OK Close Apply Help



Schematic = Tasarimsal

4PLB	10	20	30	40	50	60	70	80	90	100	110																																																																																																						
4PLB	K	L	A	D	C	S	S	K	S	P	E	E	C	E	I	F	L	V	E	G	D	S	A	G	G	S	T	K	S	G	R	D	S	R	T	Q	A	I	L	P	L	R	G	K	I	L	N	V	E	K	A	R	L	D	R	I	L	N	N	E	I	R	Q	M	I	T	A	F	G	T	G	I	G	G	D	F	L	A	K	A	R	Y	H	K	I	V	I	M	T	D	A	D	V	D	G	A	H	I	R	T	L	L	L	T	F	F	Y	R	F	M	R	P	
4PLB	L	I	E	A	G	Y	V	Y	I	A	Q	P	T	G	Y	K	G	L	G	E	M	N	A	D	Q	L	W	E	T	T	M	N	P	E	H	R	A	L	L	Q	V	K	L	E	D	A	I	E	A	D	Q	T	F	E	M	L	M	G	D	V	V	E	N	R	R	Q	F	I	E	D	N	A	V	Y	A	N	E	R	N	I	T	S	E	M	R	E	S	F	L	D	Y	A	M	S	V	I	V	A	R	A	L	P	D	V	R	D	G	L	K	P	V	H	R
4PLB	R	I	L	Y	G	L	N	E	Q	G	M	T	P	D	K	S	Y	K	K	S	A	R	I	V	G	D	V	M	G	K	Y	H	P	H	G	D	S	S	I	Y	E	A	M	V	R	M	A	Q	D	F	S	Y	R	Y	P	L	V	D	G	Q	N	F	G	S	M	D	G	A	A	M	R	F	T	E	A	R	M	T	K	I	T	L	E	L	L	R	D	I	N	K	D	T	I	D	F	I	D	N	Y	D	G	N	E	R	E	P	S	V	L	P			
4PLB	A	R	F	P	N	L	L	A	N	G	A	S	G	I	A	V	G	M	A	T	N	I	P	P	H	N	L	T	E	L	I	N	G	V	L	S	L	S	K	N	P	D	I	S	I	A	E	L	M	E	D	I	E	G	P	D	F	P	T	A	G	L	I	L	G	K	S	G	I	R	R	A	Y	E	T	G	R	G	S	I	Q	M	R	S	R	A	V	I	E	E	R	G	G	R	Q	R	I	V	V	T	E	I	P	F	Q	V	N	K	A	R	M	I	E

Define and Edit Binding Site

Define Receptor: 4PLB

**Define Site**

The cavity method works best if you use [Add Hydrogens](#) first.

From Receptor Cavities

From PDB Site Records

From Current Selection

**Change Site Size**

+ Expand - Contract

Step through Binding Sites.

Show/Hide Site Spheres

Show/Hide Residues Outside Spheres

Analyze Complexes

**Display Style**

Atom Label Protein DNA/RNA Cell Graphics

Display style

Off

Ca wire

Ca stick

Line ribbon

Flat ribbon

Solid ribbon

Tube

Schematic

Display size: 1,00

Coloring

Color by:

Secondary Type

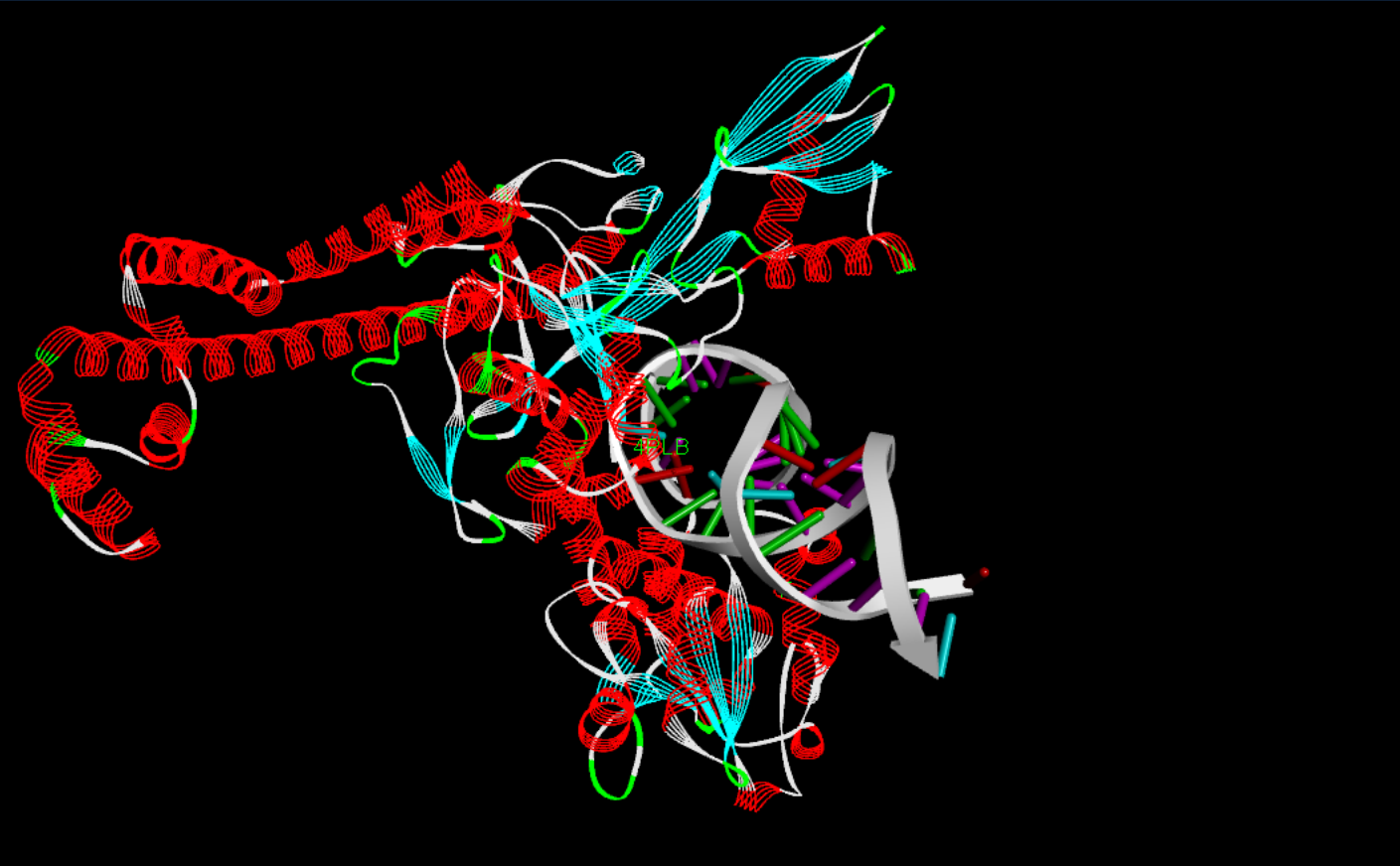
Colors...

Custom:

Ribbon size

Default Ribbon Size

OK Close Apply Help



**Line ribbon = Çizgisel şerit veya kurdele**

4plb 4plb (1)

4PLB

4PLB

4PLB

4PLB

10	20	30	40	50	60	70	80	90	100	110																																																																																																						
K	L	A	D	C	S	S	K	S	P	E	E	C	E	I	F	L	V	E	G	D	S	A	G	G	S	T	K	S	G	R	D	S	R	T	Q	A	I	L	P	L	R	G	K	I	L	N	V	E	K	A	R	L	D	R	I	L	N	N	E	I	R	Q	M	I	T	A	F	G	T	G	I	G	G	D	F	L	A	K	A	R	Y	H	K	I	V	I	M	T	D	A	D	V	D	G	A	H	I	R	T	L	L	L	T	F	F	Y	R	F	M	R	P	
120	130	140	150	160	170	180	190	200	210	220																																																																																																						
L	I	E	A	G	Y	V	I	A	Q	P	T	G	Y	K	G	L	G	E	M	N	A	D	Q	L	W	E	T	T	M	N	P	E	H	R	A	L	L	Q	V	K	L	E	D	A	I	E	A	D	Q	T	F	E	M	L	G	D	V	V	E	N	R	R	Q	F	I	E	D	N	A	V	A	N	E	R	N	I	T	S	E	M	R	E	S	F	L	D	Y	A	M	S	V	I	V	A	R	A	L	P	D	V	R	D	G	L	K	P	V	H	R			
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R	I	L	Y	G	L	N	E	Q	G	M	T	P	D	K	S	Y	K	K	S	A	R	I	V	G	D	V	M	G	K	Y	H	P	H	G	D	S	S	I	Y	E	A	M	V	R	M	A	Q	D	F	S	Y	R	Y	P	L	V	D	G	Q	N	F	G	S	M	D	G	G	A	A	M	R	F	T	E	A	R	M	T	K	I	T	L	L	L	R	D	I	N	K	D	T	I	D	F	I	D	N	Y	D	G	N	E	R	E	P	S	V	L	P			
350	360	370	380	390	400	410	420	430	440	450																																																																																																						
A	R	F	P	N	L	L	A	N	G	A	S	G	I	A	V	G	M	A	T	N	I	P	P	H	N	L	T	E	L	I	N	G	V	L	S	L	S	K	N	P	D	I	S	I	A	E	L	M	E	D	I	E	G	P	D	F	P	T	A	G	L	I	L	G	K	S	G	I	R	R	A	Y	E	T	G	R	G	S	I	Q	M	R	S	R	A	V	I	E	E	R	G	G	R	Q	R	I	V	V	T	E	I	P	F	Q	V	N	K	A	R	M	I	E
460	470	480	490	500	510	520	530	540	550	560	570																																																																																																					

Define and Edit Binding Site

Define Receptor: 4PLB

**Define Site**

The cavity method works best if you use [Add Hydrogens](#) first.

From Receptor Cavities

From PDB Site Records

From Current Selection

**Change Site Size**

+ Expand - Contract

Step through Binding Sites.

Show/Hide Site Spheres

Show/Hide Residues Outside Spheres

Analyze Complexes

Display Style

Atom Label Protein DNA/RNA Cell Graphics

Display style

Off

Ca wire

Ca stick

Line ribbon

Flat ribbon

Solid ribbon

Tube

Schematic

Display size: 1,00

Coloring

Color by:

Secondary Type

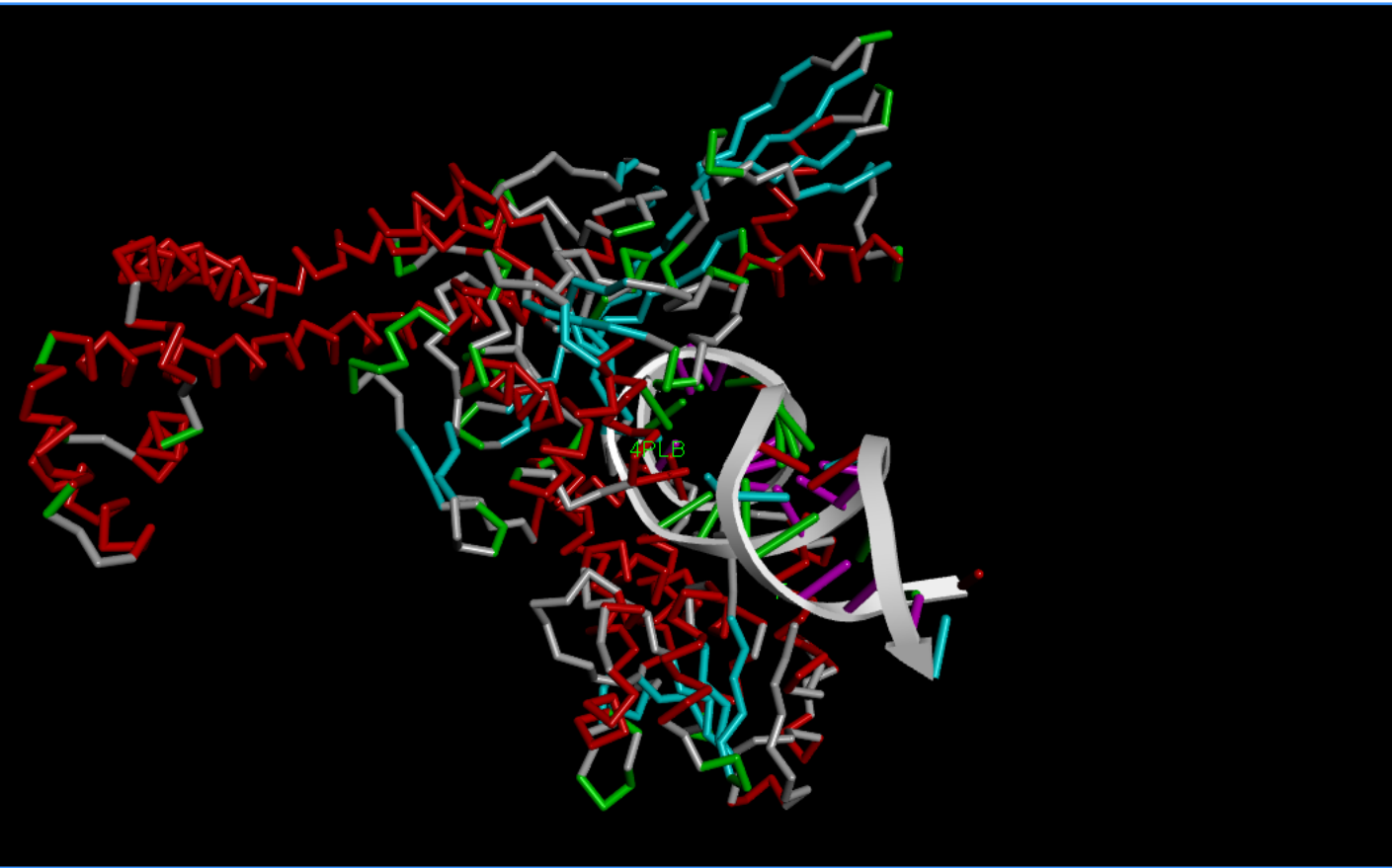
Colors...

Custom:

Ribbon size

Default Ribbon Size

OK Close Apply Help



Stick = Çubuk

4PLB	K	L	A	D	C	S	S	K	S	P	E	E	C	E	I	F	L	V	E	G	D	S	A	G	G	S	T	K	S	G	R	D	S	R	T	Q	A	I	L	P	L	R	G	K	I	L	N	V	E	K	A	R	L	D	R	I	L	N	N	E	I	R	Q	M	I	T	A	F	G	T	G	I	G	G	D	F	L	A	K	A	R	Y	H	K	I	V	I	M	T	D	A	D	V	D	G	A	H	I	R	T	L	L	L	T	F	F	Y	R	F	M	R	P	
4PLB	L	I	E	A	G	Y	V	Y	I	A	Q	P	T	G	Y	K	G	L	G	E	M	N	A	D	Q	L	W	E	T	T	M	N	P	E	H	R	A	L	L	Q	V	K	L	E	D	A	I	E	A	D	T	F	E	M	L	M	G	D	V	V	E	N	R	R	Q	F	I	E	D	N	A	V	Y	A	N	E	R	N	I	T	S	E	M	R	E	S	F	L	D	Y	A	M	S	V	I	V	A	R	A	L	P	D	V	R	D	G	L	K	P	V	H	R	
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4PLB	A	R	F	P	N	L	L	A	N	G	A	S	G	I	A	V	G	M	A	T	N	I	P	P	H	N	L	T	E	L	I	N	G	V	L	S	L	S	K	N	P	D	I	S	I	A	E	L	M	E	I	E	G	P	D	F	P	T	A	G	L	I	L	G	K	S	G	I	R	R	A	Y	E	T	G	R	G	S	I	Q	M	R	S	R	A	V	I	E	E	R	G	G	G	R	Q	R	I	V	V	T	E	I	P	F	Q	V	N	K	A	R	M	I	E

Define and Edit Binding Site

Define Receptor: 4PLB

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Display style

Off

Ca wire

Ca stick

Line ribbon

Flat ribbon

Solid ribbon

Tube

Schematic

Display size: 1,00

Coloring

Color by:

Secondary Type

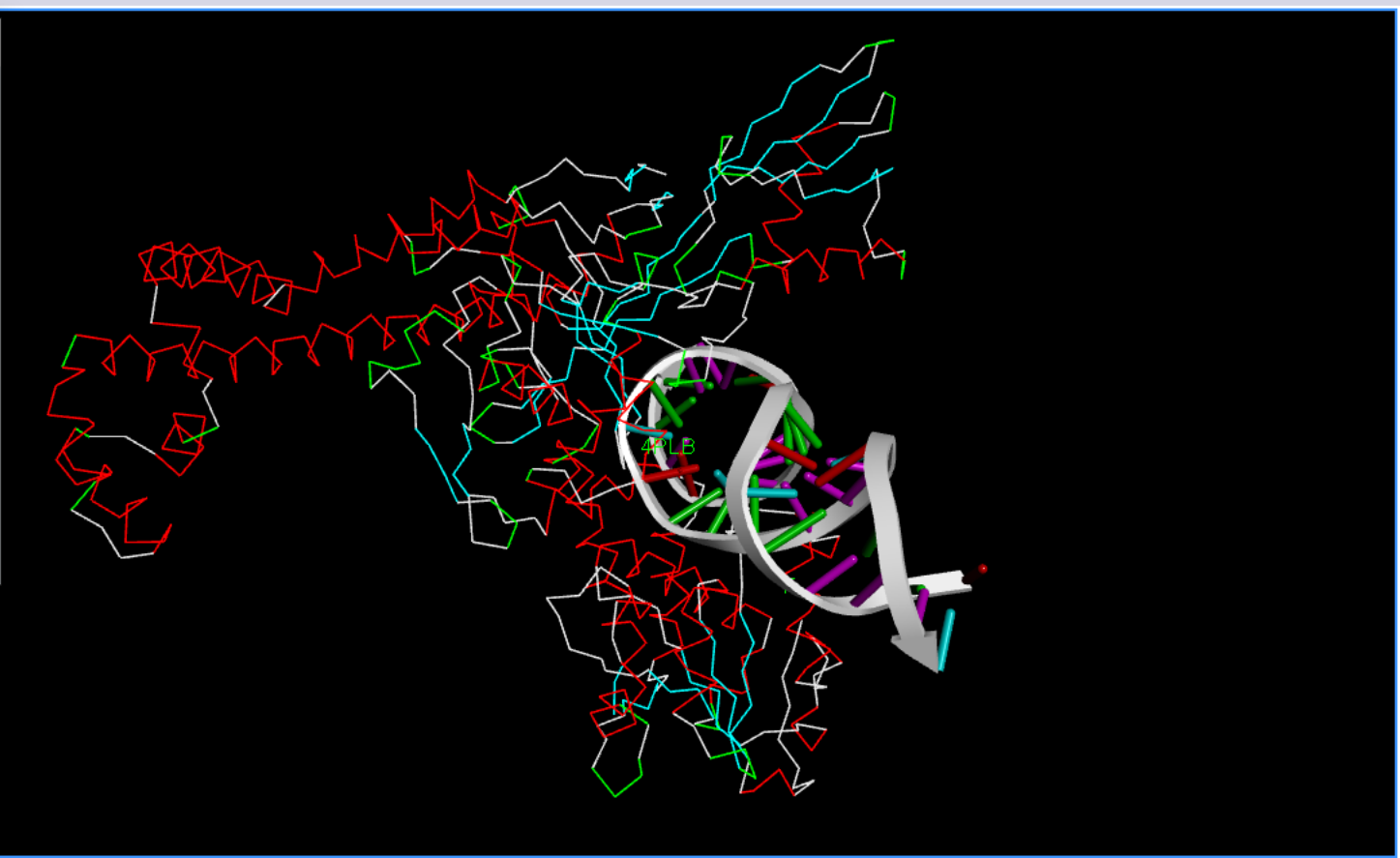
Colors...

Custom:

Ribbon size

Default Ribbon Size

OK Close Apply Help



4PLB

4PLB

4PLB

4PLB

Wire = Tel

10	20	30	40	50	60	70	80	90	100	110																																																																																																						
K	L	A	D	C	S	S	K	S	P	E	E	C	E	I	F	L	V	E	G	D	S	A	G	G	S	T	K	S	G	R	D	S	R	T	Q	A	I	L	P	L	R	G	K	I	L	N	V	E	K	A	R	L	D	R	I	L	N	N	E	I	R	Q	M	I	T	A	F	G	T	G	I	G	G	D	F	D	L	A	K	A	R	Y	H	K	I	V	I	M	T	D	A	D	V	D	G	A	H	I	R	T	L	L	L	T	F	F	Y	R	F	M	R	P
120	130	140	150	160	170	180	190	200	210	220																																																																																																						
L	I	E	A	G	Y	V	Y	I	A	Q	P	T	G	Y	K	G	L	G	E	M	N	A	D	Q	L	W	E	T	T	M	N	P	E	H	R	A	L	L	Q	V	K	L	E	D	A	I	E	A	D	Q	T	F	E	M	L	M	G	D	V	V	E	N	R	R	Q	F	I	E	D	N	A	V	A	N	E	R	N	I	T	S	E	M	R	E	S	F	L	D	Y	A	M	S	V	I	V	A	R	A	L	P	D	V	R	D	G	L	K	P	V	H	R	
230	240	250	260	270	280	290	300	310	320	330	340																																																																																																					
R	I	L	Y	G	L	N	E	Q	G	M	T	P	D	K	S	Y	K	K	S	A	R	I	V	G	D	V	M	G	K	Y	H	P	H	G	D	S	S	I	Y	E	A	M	V	R	M	A	Q	D	F	S	Y	R	Y	P	L	V	D	G	Q	G	N	F	G	S	M	D	G	D	G	A	A	M	R	F	T	E	A	R	M	T	K	I	T	L	E	L	L	R	D	I	N	K	D	T	I	D	F	I	D	N	Y	D	G	N	E	R	E	P	S	V	L	P
350	360	370	380	390	400	410	420	430	440	450																																																																																																						
A	R	F	P	N	L	L	A	N	G	A	S	G	I	A	V	G	M	A	T	N	I	P	P	H	N	L	T	E	L	I	N	G	V	L	S	L	S	K	N	P	D	I	S	I	A	E	L	M	E	I	E	G	P	D	F	P	T	A	G	L	I	L	G	K	S	G	I	R	R	A	Y	E	T	G	R	G	S	I	Q	M	R	S	R	A	V	I	E	E	R	G	G	G	R	Q	R	I	V	V	T	E	I	P	F	Q	V	N	K	A	R	M	I	E
460	470	480	490	500	510	520	530	540	550	560	570																																																																																																					