

# Full wwPDB X-ray Structure Validation Report (i)

#### May 27, 2024 – 06:09 PM EDT

PDB ID : 4UM3

Title : Engineered Ls-AChBP with alpha4-alpha4 binding pocket in complex with

NS3920

Authors: Shahsavar, A.; Kastrup, J.S.; Balle, T.; Gajhede, M.

Deposited on : 2014-05-14

Resolution : 2.70 Å(reported)

This is a Full wwPDB X-ray Structure Validation Report for a publicly released PDB entry.

We welcome your comments at validation@mail.wwpdb.org
A user guide is available at
https://www.wwpdb.org/validation/2017/XrayValidationReportHelp
with specific help available everywhere you see the (i) symbol.

The types of validation reports are described at http://www.wwpdb.org/validation/2017/FAQs#types.

The following versions of software and data (see references (1)) were used in the production of this report:

MolProbity : FAILED Xtriage (Phenix) : 1.13 EDS : FAILED

Percentile statistics : 20191225.v01 (using entries in the PDB archive December 25th 2019)

Ideal geometry (proteins) : Engh & Huber (2001) Ideal geometry (DNA, RNA) : Parkinson et al. (1996)

Validation Pipeline (wwPDB-VP) : 2.36.2

## 1 Overall quality at a glance (i)

The following experimental techniques were used to determine the structure:  $X\text{-}RAY\ DIFFRACTION$ 

The reported resolution of this entry is 2.70 Å.

There are no overall percentile quality scores available for this entry.



## 2 Entry composition (i)

There are 7 unique types of molecules in this entry. The entry contains 64774 atoms, of which 0 are hydrogens and 0 are deuteriums.

In the tables below, the ZeroOcc column contains the number of atoms modelled with zero occupancy, the AltConf column contains the number of residues with at least one atom in alternate conformation and the Trace column contains the number of residues modelled with at most 2 atoms.

• Molecule 1 is a protein called ACETYLCHOLINE BINDING PROTEIN.

Mol	Chain	Residues		At	oms			ZeroOcc	AltConf	Trace
1	A	201	Total	С	N	О	S	0	2	0
	71	201	1619	1015	280	320	4	0	2	0
1	В	198	Total	С	N	О	S	0	0	0
		100	1578	991	269	314	4	Ü		
1	С	201	Total	С	N	0	S	0	0	0
		_	1608	1007	278	319	4		_	-
1	D	201	Total	C	N	0	S	0	0	0
			1605	1005	275	321	4			
1	Е	195	Total	C	N	0	S	0	1	0
			1560	983	265	308	4			
1	F	196	Total	C	N	0	S	0	1	0
			1572	989	270 N	309	4			
1	G	200	Total	C		0	S	0	0	0
			1597	1001 C	274 N	318 O	$\frac{4}{S}$			
1	Н	197	Total				5 4	0	0	0
			Total	$\frac{985}{C}$	265 N	313 O	$\frac{4}{S}$			
1	I	200	1603	1005	274	320	3 4	0	1	0
			Total	C	N	0	$\frac{4}{S}$			
1	J	200	1605	1006	277	318	4	0	1	0
			Total	C	N	0	S			
1	K	197	1575	990	268	313	4	0	1	0
			Total	C	N	0	S			
1	L	195	1565	985	268	308	4	0	1	0
			Total	$\frac{000}{C}$	N	0	S			
1	M	198	1590	998	272	316	4	0	1	0
			Total	C	N	0	S		_	
1	N	196	1564	984	264	312	$\overset{\sim}{4}$	0	1	0
1		100	Total	С	N	O	S	0	0	
1	О	196	1563	983	264	312	4	0	0	0
-1	0	100	Total	С	N	О	S	0	0	
1	Q	196	1574	991	269	310	4	0	2	0
	1							Contin	nued on ner	t maga



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Total   C	Mol	Chain	Residues	9 - 111	At	oms			ZeroOcc	AltConf	Trace
Total   C	1	D	100	Total	С	N	О	S	0	0	0
1         T         194         1552         978         265         305         4         0         0         0           1         U         197         Total         C         N         O         S           1         V         199         Total         C         N         O         S           1         V         199         Total         C         N         O         S           1         W         197         Total         C         N         O         S           1         W         197         Total         C         N         O         S           1         X         202         Total         C         N         O         S           1         Y         197         Total         C         N         O         S         O         O           1         Z         196         Total         C         N         O         S         O         O         O           1         Z         196         1567         985         265         313         4         O         O         O           1         Z	1	K	198	1585	995	272	314	4	U	U	U
1552 978 265 305 4	1	T	104	Total	С	N	О	S	0	0	0
1	1	1	194	1552	978	265	305	4	U	U	U
1	1	TT	107	Total	С	N	О	S	0	0	0
1         V         199         1589         997         273         315         4         0         0         0           1         W         197         Total C N O S 1570         087         268         311         4         0         0         0           1         X         202         Total C N O S 1611         008         276         323         4         0         0         0           1         Y         197         Total C N O S 1567         985         265         313         4         0         0         0           1         Z         196         Total C N O S 1564         984         267         309         4         0         0         0           1         Z         196         Total C N O S 1564         984         267         309         4         0         1         0           1         a         197         Total C N O S 1573         313         4         0         1         0           1         b         198         Total C N O S 158         0         1         0         1           1         c         200         Total C N O S 3322         4         0 <td>1</td> <td>U</td> <td>191</td> <td>1575</td> <td>990</td> <td>271</td> <td>310</td> <td></td> <td>0</td> <td>0</td> <td>U</td>	1	U	191	1575	990	271	310		0	0	U
1       W       197       Total C N O S S 1570 987 268 311 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	V	100	Total	С	N	О	S	0	0	0
1       W       197       1570       987       268       311       4       0       0       0         1       X       202       Total 1611       C       N       O       S       0       0       0         1       Y       197       Total 1567       C       N       O       S       0       0       0         1       Z       196       Total 1564       C       N       O       S       0       0       0         1       a       197       Total 1575       C       N       O       S       0       0       0         1       a       197       Total 1575       C       N       O       S       0       1       0         1       b       198       Total 1590       C       N       O       S       0       1       0         1       c       200       Total 1604       C       N       O       S       0       2       0         1       d       198       Total 1578       O       N       O       S       0       0       0         1       e	1	v	199	1589	997	273	315			0	0
1       X       202       Total C N O S S 111 4 4 1611 1008 276 323 4 4 0 0 0 0 0 0        0       0       0       0       0       0       0       0       0       0       0       0       0       0       0        0       0       0       0       0       0       0       0       0       0       0       0       0       0       0        0       0       0       0       0       0       0       0       0       0       0 <td< td=""><td>1</td><td>W</td><td>107</td><td>Total</td><td>С</td><td>N</td><td>O</td><td>S</td><td>0</td><td>0</td><td>0</td></td<>	1	W	107	Total	С	N	O	S	0	0	0
1       X       202       1611       1008       276       323       4       0       0       0         1       Y       197       Total       C       N       O       S       0       0       0         1       Z       196       Total       C       N       O       S       0       0       0         1       a       197       Total       C       N       O       S       0       0       0         1       a       197       Total       C       N       O       S       0       0       0         1       a       198       Total       C       N       O       S       0       1       0         1       c       200       Total       C       N       O       S       0       1       0         1       d       198       Total       C       N       O       S       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       f       195       Total       C       N	1	VV	191	1570	987	268	311		0	U	U
1       Y       197       Total C N O S S 1567 985 265 313 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	Y	202	Total	С	N	О	S	0	0	0
1       Y       197       1567       985       265       313       4       0       0       0         1       Z       196       Total       C       N       O       S       0       0       0         1       a       197       Total       C       N       O       S       0       1       0         1       b       198       Total       C       N       O       S       0       1       0         1       c       200       Total       C       N       O       S       0       1       0         1       d       198       Total       C       N       O       S       0       2       0         1       d       198       Total       C       N       O       S       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       f       195       Total       C       N       O       S       0       0       0         1       f       195       Total       C       N	1	Λ	202	1611	1008	276	323		0	U	U
1       Z       196       Total C N O S 1564 984 267 309 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	V	107	Total	С	N	О	S	0	0	0
1       Z       196       1564       984       267       309       4       0       0       0         1       a       197       Total       C       N       O       S       0       1       0         1       b       198       Total       C       N       O       S       0       1       0         1       c       200       Total       C       N       O       S       0       1       0         1       d       198       Total       C       N       O       S       0       2       0         1       d       198       Total       C       N       O       S       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       f       195       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N	1	1	191	1567			313		0	U	U
1       a       197       Total C N O S S 1575 990 268 313 4 0 0 1 0 0       1       0         1       b       198       Total C N O S 1590 999 274 313 4 0 0 1 0 0       0       0       1       0         1       c       200       Total C N O S 1604 1005 273 322 4 0 0 0 0 0       0	1	7	106	Total	С	N	О	S	0	0	0
1       a       197       1575       990       268       313       4       0       1       0         1       b       198       Total       C       N       O       S       0       1       0         1       c       200       Total       C       N       O       S       0       2       0         1       d       198       Total       C       N       O       S       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       f       195       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0       0         1       h       199       Total       C	1	L	190	1564			309		0	U	U
1       b       198       Total C N O S 1590 999 274 313 4 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	9	107	Total	С	N	О	S	0	1	0
1       b       198       1590       999       274       313       4       0       1       0         1       c       200       Total       C       N       O       S       0       2       0         1       d       198       Total       C       N       O       S       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       f       195       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       h       199       Total       C       N       O       S       0       0       0         1       i       197       Total       C       N	1	а	191	1575					0	1	U
1       c       200       Total C N O S 1604 1005 273 322 4       0       2       0         1       d       198       Total C N O S 1578 991 269 314 4       0       0       0       0         1       e       198       Total C N O S 1583 994 272 313 4       0       0       0       0         1       f       195       Total C N O S 1560 982 266 308 4       0       0       0       0         1       g       198       Total C N O S 1585 995 272 314 4       0       0       0       0         1       h       199       Total C N O S 1586 1001 273 318 4       0       0       0       0         1       i       197       Total C N O S 158 265 313 4       0       0       0         1       j       198       Total C N O S 158 265 313 4       0       0       0         1       j       198       Total C N O S 265 313 4       0       0       0         1       j       198       Total C N O S 265 313 4       0       0       0         1       j       198       Total C N O S 265 313 4       0       0       0         1       j       198       1578 991 269 314 4       <	1	h	109	Total	С	N	О	S	0	1	0
1       c       200       1604       1005       273       322       4       0       2       0         1       d       198       Total       C       N       O       S       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       f       195       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       h       199       Total       C       N       O       S       0       0       0         1       i       197       Total       C       N       O       S       0       0       0         1       j       198       Total       C       N       O       S       0       0       0       0         1       k       198       Total       C	1	D	190	1590		274	313		0	1	U
1       d       198       Total C N O S 1578 991 269 314 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	0	200	Total	С	N	О	S	0	9	0
1       d       198       1578       991       269       314       4       0       0       0         1       e       198       Total       C       N       O       S       0       0       0         1       f       195       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       h       199       Total       C       N       O       S       0       0       0         1       i       197       Total       C       N       O       S       0       0       0         1       j       198       Total       C       N       O       S       0       0       0         1       j       198       Total       C       N       O       S       0       0       0         1       k       198       Total       C       N       O       S       0       0       0         1       k       198       Total       C       N	1		200	1604	1005		322			2	0
1       e       198       Total C N O S 1583 994 272 313 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	d	108	Total	С	N	О	S	0	0	0
1       e       198       1583       994       272       313       4       0       0       0         1       f       195       Total       C       N       O       S       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       h       199       Total       C       N       O       S       0       0       1       0         1       i       197       Total       C       N       O       S       0       0       0       0         1       j       198       Total       C       N       O       S       0       0       0       0         1       k       198       Total       C       N       O       S       0       0       0       0         1       k       198       Total       C       N       O       S       0       0       0       0         1       l       200       Total       C       N       O       S       0       0       0       0	1	u	190	1578	991	269	314		0	0	U
1       f       195       Total C N O S 1560 982 266 308 4 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	0	109	Total	С	N	О	S	0	0	0
1       1       195       1560       982       266       308       4       0       0       0         1       g       198       Total       C       N       O       S       0       0       0         1       h       199       Total       C       N       O       S       0       1       0         1       i       197       Total       C       N       O       S       0       0       0         1       j       198       Total       C       N       O       S       0       0       0         1       k       198       Total       C       N       O       S       0       0       0         1       k       198       Total       C       N       O       S       0       0       0         1       k       198       Total       C       N       O       S       0       0       0         1       200       Total       C       N       O       S       0       0       0         1       1       200       Total       C       N       O	1	е	190	1583	994	272	313		0	0	U
1       g       198       Total C N O S 1585 995 272 314 4 9 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1	t.	105	Total	С	N	О	S	0	0	0
1       g       198       1585       995       272       314       4       0       0       0         1       h       199       Total C N O S 1596       1001       273       318       4       0       1       0         1       i       197       Total C N O S 1567       985       265       313       4       0       0       0         1       j       198       Total C N O S 1585       995       272       314       4       0       0       0         1       k       198       Total C N O S 1578       991       269       314       4       0       0       0         1       1       200       Total C N O S 1597       1001       274       318       4       0       0       0	1	1	199	1560	982	266	308	4	0	0	U
1       h       199       Total C N O S 1596 1001 273 318 4       0       1       0         1       i       197       Total C N O S 1567 985 265 313 4       0       0       0       0         1       j       198       Total C N O S 1585 995 272 314 4       0       0       0       0         1       k       198       Total C N O S 1578 991 269 314 4       0       0       0       0         1       1       200       Total C N O S 1597 1001 274 318 4       0       0       0       0	1	ď	109	Total	С	N	О	S	0	0	0
1       h       199       1596       1001       273       318       4       0       1       0         1       i       197       Total 1567       C       N       O       S       0       0       0         1       j       198       Total 1585       C       N       O       S       0       0       0         1       k       198       Total 1578       C       N       O       S       0       0       0         1       1       200       Total 1597       C       N       O       S       0       0       0	1	g	190	1585	995	272	314	4		0	0
1       i       197       Total C N O S 1567 985 265 313 4       0       0       0       0         1       j       198       Total C N O S 1585 995 272 314 4       0       0       0       0         1       k       198       Total C N O S 1578 991 269 314 4       0       0       0       0         1       l       200       Total C N O S 1597 1001 274 318 4       0       0       0       0         Total C N O S 1597 1001 274 318 4       0       0       0       0	1	h	100	Total	С	N	О	S	0	1	0
1       1       197       1567       985       265       313       4       0       0       0         1       j       198       Total C N O S 1585       995       272       314       4       0       0       0         1       k       198       Total C N O S 1578       991       269       314       4       0       0       0         1       1       200       Total C N O S 1597       1001       274       318       4       0       0       0	1	11	199	1596	1001	273	318	4	0	1	U
1       j       198       Total C N O S 1585 995 272 314 4       0       0       0       0         1       k       198       Total C N O S 1578 991 269 314 4       0       0       0       0         1       l       200       Total C N O S 1597 1001 274 318 4       0       0       0       0	1	i	107	Total	С	N	О	S	0	0	0
1       J       198       1585       995       272       314       4       0       0       0         1       k       198       Total       C       N       O       S       0       0       0         1       l       200       Total       C       N       O       S       0       0       0         Total       C       N       O       S       0       0       0       0	1	1	191	1567	985	265	313	4	0	U	U
1     k     198     Total C N O S 1578 991 269 314 4     0     0     0       1     l     200     Total C N O S 1597 1001 274 318 4     0     0     0	1	i	108	Total	С	N	О	S	0	0	0
1     k     198     1578     991     269     314     4     0     0     0       1     l     200     Total     C     N     O     S     0     0     0       Total     C     N     O     S		J	130	1585					U	0	<u> </u>
1 1 200 Total C N O S 0 0 0 Total C N O S 1597 1001 274 318 4	1	ŀ	108		$\overline{\mathrm{C}}$	N		$\overline{S}$	0	0	0
1 1 200 1597 1001 274 318 4 0 0 0 0 Total C N O S		V	130	1578			314		U	U	
Total C N O S	1	1	200		С	N	O	S	0	0	0
Total C N O S		1	200				318		U	U	
	1	m	201			N		$\mathbf{S}$	0	0	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		111	201	1605	1005	275	321	4	U	U	



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Mol	Chain	Residues		At	oms			ZeroOcc	AltConf	Trace
1	n	196	Total 1559	C 981	N 264	O 310	S 4	0	0	0

There are 114 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
A	104	HIS	ARG	engineered mutation	UNP P58154
A	112	GLN	LEU	engineered mutation	UNP P58154
A	114	THR	MET	engineered mutation	UNP P58154
В	104	HIS	ARG	engineered mutation	UNP P58154
В	112	GLN	LEU	engineered mutation	UNP P58154
В	114	THR	MET	engineered mutation	UNP P58154
С	104	HIS	ARG	engineered mutation	UNP P58154
С	112	GLN	LEU	engineered mutation	UNP P58154
С	114	THR	MET	engineered mutation	UNP P58154
D	104	HIS	ARG	engineered mutation	UNP P58154
D	112	GLN	LEU	engineered mutation	UNP P58154
D	114	THR	MET	engineered mutation	UNP P58154
Е	104	HIS	ARG	engineered mutation	UNP P58154
Е	112	GLN	LEU	engineered mutation	UNP P58154
Е	114	THR	MET	engineered mutation	UNP P58154
F	104	HIS	ARG	engineered mutation	UNP P58154
F	112	GLN	LEU	engineered mutation	UNP P58154
F	114	THR	MET	engineered mutation	UNP P58154
G	104	HIS	ARG	engineered mutation	UNP P58154
G	112	$\operatorname{GLN}$	LEU	engineered mutation	UNP P58154
G	114	THR	MET	engineered mutation	UNP P58154
Н	104	HIS	ARG	engineered mutation	UNP P58154
Н	112	$\operatorname{GLN}$	LEU	engineered mutation	UNP P58154
Н	114	THR	MET	engineered mutation	UNP P58154
I	104	HIS	ARG	engineered mutation	UNP P58154
I	112	$\operatorname{GLN}$	LEU	engineered mutation	UNP P58154
I	114	THR	MET	engineered mutation	UNP P58154
J	104	HIS	ARG	engineered mutation	UNP P58154
J	112	$\operatorname{GLN}$	LEU	engineered mutation	UNP P58154
J	114	THR	MET	engineered mutation	UNP P58154
K	104	HIS	ARG	engineered mutation	UNP P58154
K	112	GLN	LEU	engineered mutation	UNP P58154
K	114	THR	MET	engineered mutation	UNP P58154
L	104	HIS	ARG	engineered mutation	UNP P58154
L	112	GLN	LEU	engineered mutation	UNP P58154
L	114	THR	MET	engineered mutation	UNP P58154



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Chain	Residue	Modelled	Actual	Comment	Reference
M	104	HIS	ARG	engineered mutation	UNP P58154
M	112	GLN	LEU	engineered mutation	UNP P58154
M	114	THR	MET	engineered mutation	UNP P58154
N	104	HIS	ARG	engineered mutation	UNP P58154
N	112	GLN	LEU	engineered mutation	UNP P58154
N	114	THR	MET	engineered mutation	UNP P58154
О	104	HIS	ARG	engineered mutation	UNP P58154
О	112	GLN	LEU	engineered mutation	UNP P58154
О	114	THR	MET	engineered mutation	UNP P58154
Q	104	HIS	ARG	engineered mutation	UNP P58154
Q	112	GLN	LEU	engineered mutation	UNP P58154
Q	114	THR	MET	engineered mutation	UNP P58154
R	104	HIS	ARG	engineered mutation	UNP P58154
R	112	GLN	LEU	engineered mutation	UNP P58154
R	114	THR	MET	engineered mutation	UNP P58154
Т	104	HIS	ARG	engineered mutation	UNP P58154
Т	112	GLN	LEU	engineered mutation	UNP P58154
Т	114	THR	MET	engineered mutation	UNP P58154
U	104	HIS	ARG	engineered mutation	UNP P58154
U	112	GLN	LEU	engineered mutation	UNP P58154
U	114	THR	MET	engineered mutation	UNP P58154
V	104	HIS	ARG	engineered mutation	UNP P58154
V	112	GLN	LEU	engineered mutation	UNP P58154
V	114	THR	MET	engineered mutation	UNP P58154
W	104	HIS	ARG	engineered mutation	UNP P58154
W	112	GLN	LEU	engineered mutation	UNP P58154
W	114	THR	MET	engineered mutation	UNP P58154
X	104	HIS	ARG	engineered mutation	UNP P58154
X	112	GLN	LEU	engineered mutation	UNP P58154
X	114	THR	MET	engineered mutation	UNP P58154
Y	104	HIS	ARG	engineered mutation	UNP P58154
Y	112	GLN	LEU	engineered mutation	UNP P58154
Y	114	THR	MET	engineered mutation	UNP P58154
Z	104	HIS	ARG	engineered mutation	UNP P58154
Z	112	GLN	LEU	engineered mutation	UNP P58154
Z	114	THR	MET	engineered mutation	UNP P58154
a	104	HIS	ARG	engineered mutation	UNP P58154
a	112	GLN	LEU	engineered mutation	UNP P58154
a	114	THR	MET	engineered mutation	UNP P58154
b	104	HIS	ARG	engineered mutation	UNP P58154
b	112	GLN	LEU	engineered mutation	UNP P58154
b	114	THR	MET	engineered mutation	UNP P58154



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Chain	Residue	Modelled Modelled	Actual	Comment	Reference
С	104	HIS	ARG	engineered mutation	UNP P58154
С	112	GLN	LEU	engineered mutation	UNP P58154
С	114	THR	MET	engineered mutation	UNP P58154
d	104	HIS	ARG	engineered mutation	UNP P58154
d	112	GLN	LEU	engineered mutation	UNP P58154
d	114	THR	MET	engineered mutation	UNP P58154
е	104	HIS	ARG	engineered mutation	UNP P58154
е	112	GLN	LEU	engineered mutation	UNP P58154
е	114	THR	MET	engineered mutation	UNP P58154
f	104	HIS	ARG	engineered mutation	UNP P58154
f	112	GLN	LEU	engineered mutation	UNP P58154
f	114	THR	MET	engineered mutation	UNP P58154
g	104	HIS	ARG	engineered mutation	UNP P58154
g	112	GLN	LEU	engineered mutation	UNP P58154
g	114	THR	MET	engineered mutation	UNP P58154
h	104	HIS	ARG	engineered mutation	UNP P58154
h	112	GLN	LEU	engineered mutation	UNP P58154
h	114	THR	MET	engineered mutation	UNP P58154
i	104	HIS	ARG	engineered mutation	UNP P58154
i	112	GLN	LEU	engineered mutation	UNP P58154
i	114	THR	MET	engineered mutation	UNP P58154
j	104	HIS	ARG	engineered mutation	UNP P58154
j	112	GLN	LEU	engineered mutation	UNP P58154
j	114	THR	MET	engineered mutation	UNP P58154
k	104	HIS	ARG	engineered mutation	UNP P58154
k	112	GLN	LEU	engineered mutation	UNP P58154
k	114	THR	MET	engineered mutation	UNP P58154
1	104	HIS	ARG	engineered mutation	UNP P58154
1	112	GLN	LEU	engineered mutation	UNP P58154
1	114	THR	MET	engineered mutation	UNP P58154
m	104	HIS	ARG	engineered mutation	UNP P58154
m	112	GLN	LEU	engineered mutation	UNP P58154
m	114	THR	MET	engineered mutation	UNP P58154
n	104	HIS	ARG	engineered mutation	UNP P58154
n	112	GLN	LEU	engineered mutation	UNP P58154
n	114	THR	MET	engineered mutation	UNP P58154

• Molecule 2 is a protein called ACETYLCHOLINE BINDING PROTEIN.

Mol	Chain	Residues		Ato	oms			ZeroOcc	AltConf	Trace
2	Р	201	Total 1608	C 1007	N 278	O 319	S 4	0	0	0



	• •	-	-			
/ 1 11 1		l <del>-</del>	<i>L</i>			reference sequences:
I nere are 4	angerenancies	nerween	THA	MAAAHAA	มทก	reterence seallences.
Indicate a	discrepancies	DCUWCCII	ULIC	modelica	and	iciciciice acqueiices.

Chain	Residue	Modelled	Actual	Comment	Reference
Р	104	HIS	ARG	engineered mutation	UNP P58154
Р	112	GLN	LEU	engineered mutation	UNP P58154
P	114	THR	MET	engineered mutation	UNP P58154
Р	?	-	ASP	deletion	UNP P58154

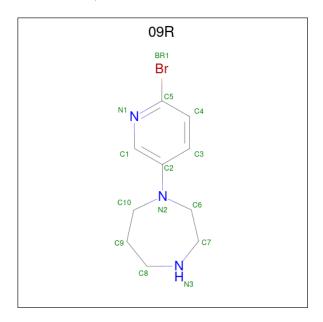
• Molecule 3 is a protein called ACETYLCHOLINE BINDING PROTEIN.

Mol	Chain	Residues		$\mathbf{At}$	oms			ZeroOcc	AltConf	Trace
3	Q	201	Total	С	N	О	S	0	0	0
'	D	201	1603	1004	276	319	4		U	

There are 4 discrepancies between the modelled and reference sequences:

Chain	Residue	Modelled	Actual	Comment	Reference
S	104	HIS	ARG	engineered mutation	UNP P58154
S	112	GLN	LEU	engineered mutation	UNP P58154
S	114	THR	MET	engineered mutation	UNP P58154
S	131	GLN	GLU	conflict	UNP P58154

 $\bullet$  Molecule 4 is 1-(6-bromopyridin-3-yl)-1,4-diazepane (three-letter code: 09R) (formula:  $C_{10}H_{14}BrN_3).$ 



Mol	Chain	Residues	I	Aton	ns		ZeroOcc	AltConf
1	Λ	1	Total	Br	С	N	0	0
4	Λ	1	14	1	10	3	0	U



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Mol	Chain	$egin{array}{c} egin{array}{c} egin{array}$		Aton	ns		ZeroOcc	AltConf
4	D	1	Total	Br	С	N	0	0
4	В	1	14	1	10	3	0	0
4		1	Total	Br	С	N	0	0
4	С	1	14	1	10	3	0	0
4	D	1	Total	Br	С	N	0	0
4	D	1	14	1	10	3	0	0
4	E	1	Total	Br	С	N	0	0
4	E	1	14	1	10	3	0	0
4	F	1	Total	Br	С	N	0	0
4	Г	1	14	1	10	3	0	0
4	G	1	Total	Br	С	N	0	0
4	G	1	14	1	10	3	0	0
4	Н	1	Total	Br	С	N	0	0
4	11	1	14	1	10	3	0	0
4	I	1	Total	Br	С	N	0	0
4	1	1	14	1	10	3	0	0
4	J	1	Total	Br	С	N	0	0
4	J	1	14	1	10	3	0	U
4	K	1	Total	Br	С	N	0	0
4	IX	1	14	1	10	3	0	
4	L	1	Total	Br	С	N	0	0
4	П	1	14	1	10	3	0	0
4	M	1	Total	$\operatorname{Br}$	С	N	0	0
4	1V1	1	14	1	10	3	U	
4	N	1	Total	$\operatorname{Br}$	С	N	0	0
4	11	1	14	1	10	3	U	U
4	О	1	Total	$\operatorname{Br}$	С	Ν	0	0
-1		1	14	1	10	3	0	
4	Р	1	Total	$\operatorname{Br}$	$\mathbf{C}$	Ν	0	0
	1	1	14	1	10	3	0	
4	Q	1	Total	$\operatorname{Br}$	С	Ν	0	0
	~	1	14	1	10	3	U	0
4	R	1	Total	$\operatorname{Br}$	С	Ν	0	0
	16	1	14	1	10	3	U	U
4	S	1	Total	$\operatorname{Br}$	С	Ν	0	0
-1	Σ	1	14	1	10	3	U	U
4	Т	1	Total	$\operatorname{Br}$	С	Ν	0	0
1	1	1	14	1	10	3		
4	U	1	Total	$\operatorname{Br}$	$\mathbf{C}$	N	0	0
		1	14	1	10	3	J	U
4	V	1	Total	$\operatorname{Br}$	$\mathbf{C}$	N	0	0
-1	٧	1	14	1	10	$\frac{3}{C_{\rm o}}$	U	

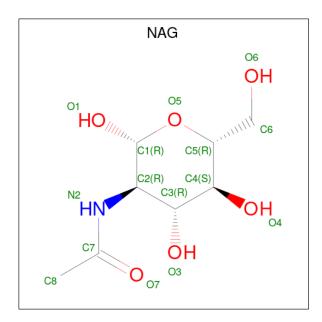


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Mol	Chain	$oxed{ \mathbf{Residues} }$	<u> </u>	Aton	ns		ZeroOcc	AltConf
4	7.7.7	1	Total	Br	С	N	0	0
4	W	1	14	1	10	3	0	0
4	v	1	Total	Br	С	N	0	0
4	X	1	14	1	10	3	0	0
4	Y	1	Total	Br	С	N	0	0
4	ĭ	1	14	1	10	3	0	U
4	Z	1	Total	Br	С	N	0	0
4	Z	1	14	1	10	3	U	U
4	a	1	Total	Br	С	N	0	0
4	а	1	14	1	10	3	U	0
4	b	1	Total	$\operatorname{Br}$	С	Ν	0	0
4	D	1	14	1	10	3	0	
4	c	1	Total	$\operatorname{Br}$	С	Ν	0	0
	C	1	14	1	10	3	O	0
4	d	1	Total	$\operatorname{Br}$	$\mathbf{C}$	Ν	0	0
	u.	1	14	1	10	3	U	0
4	f	1	Total	$\operatorname{Br}$	С	N	0	0
1	1	1	14	1	10	3	0	
4	f	1	Total	$\operatorname{Br}$	С	N	0	0
1	1	1	14	1	10	3	Ü	
4	g	1	Total	$\operatorname{Br}$	С	N	0	0
	0	-	14	1	10	3		0
4	h	1	Total	$\operatorname{Br}$	С	N	0	0
		-	14	1	10	3		Ŭ
4	i	1	Total	$\operatorname{Br}$	С	N	0	0
			14	1	10	3		-
4	j	1	Total	$\operatorname{Br}$	С	N	0	0
	3		14	1	10	3		
4	k	1	Total	Br	C	N	0	0
			14	1	10	3		
4	1	1	Total	Br	C	N	0	0
			14	1	10	3		
4	m	1	Total	Br	$C_{10}$	N	0	0
			14	1	10	3		
4	n	1	Total	Br	$C_{10}$	N	0	0
			14	1	10	3		

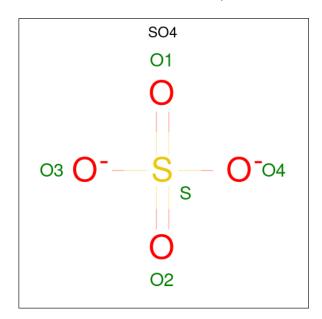
 $\bullet$  Molecule 5 is 2-acetamido-2-deoxy-beta-D-glucopyranose (three-letter code: NAG) (formula:  $C_8H_{15}NO_6).$ 





Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
5	A	1	Total C N O 14 8 1 5	0	0
5	О	1	Total C N O 14 8 1 5	0	0
5	d	1	Total C N O 14 8 1 5	0	0

 $\bullet$  Molecule 6 is SULFATE ION (three-letter code: SO4) (formula:  $\mathrm{O_4S}).$ 



Mol	Chain	Residues	Atoms			ZeroOcc	AltConf
6	V	1	Total 5	O 4	S 1	0	0



#### • Molecule 7 is water.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf
7	A	41	Total O 41 41	0	0
7	В	31	Total O 31 31	0	0
7	С	25	Total O 25 25	0	0
7	D	26	Total O 26 26	0	0
7	Е	25	Total O 25 25	0	0
7	F	29	Total O 29 29	0	0
7	G	29	Total O 29 29	0	0
7	Н	22	Total O 22 22	0	0
7	I	28	Total O 28 28	0	0
7	J	37	Total O 37 37	0	0
7	К	29	Total O 29 29	0	0
7	L	23	Total O 23 23	0	0
7	M	19	Total O 19 19	0	0
7	N	21	Total O 21 21	0	0
7	О	30	Total O 30 30	0	0
7	Р	40	Total O 40 40	0	0
7	Q	37	Total O 37 37	0	0
7	R	27	Total O 27 27	0	0
7	S	28	Total O 28 28	0	0
7	Т	31	Total O 31 31	0	0
7	U	30	Total O 30 30	0	0



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Mol		$oxed{ \mathbf{Residues} }$	Atoms	ZeroOcc	AltConf
7	V	44	Total O 44 44	0	0
7	W	28	Total O 28 28	0	0
7	X	28	Total O 28 28	0	0
7	Y	16	Total O 16 16	0	0
7	Z	23	Total O 23 23	0	0
7	a	16	Total O 16 16	0	0
7	b	9	Total O 9 9	0	0
7	c	3	Total O 3 3	0	0
7	d	19	Total O 19 19	0	0
7	e	3	Total O 3 3	0	0
7	f	2	Total O 2 2	0	0
7	g	1	Total O 1 1	0	0
7	h	7	Total O 7 7	0	0
7	i	5	Total O 5 5	0	0
7	j	2	Total O 2 2	0	0
7	k	7	Total O 7 7	0	0
7	1	6	Total O 6 6	0	0
7	m	2	Total O 2 2	0	0
7	n	7	Total O 7 7	0	0

 ${\tt SEQUENCE-PLOTS\ INFOmissing INFO}$ 



## 3 Data and refinement statistics (i)

EDS failed to run properly - this section is therefore incomplete.

Property	Value	Source
Space group	P 1 21 1	Depositor
Cell constants	135.49Å 145.42Å 234.91Å	Depositor
a, b, c, $\alpha$ , $\beta$ , $\gamma$	$90.00^{\circ}$ $101.29^{\circ}$ $90.00^{\circ}$	Depositor
Resolution (Å)	30.07 - 2.70	Depositor
% Data completeness	99.5 (30.07-2.70)	Depositor
(in resolution range)	, ,	Depositor
$R_{merge}$	0.08	Depositor
$R_{sym}$	(Not available)	Depositor
$< I/\sigma(I) > 1$	2.70  (at  2.72Å)	Xtriage
Refinement program	PHENIX (PHENIX.REFINE)	Depositor
$R, R_{free}$	0.198 , 0.244	Depositor
Wilson B-factor $(\mathring{A}^2)$	44.8	Xtriage
Anisotropy	0.622	Xtriage
L-test for twinning <sup>2</sup>	$ < L > = 0.40, < L^2> = 0.22$	Xtriage
Estimated twinning fraction	No twinning to report.	Xtriage
Total number of atoms	64774	wwPDB-VP
Average B, all atoms $(Å^2)$	46.0	wwPDB-VP

Xtriage's analysis on translational NCS is as follows: The largest off-origin peak in the Patterson function is 5.90% of the height of the origin peak. No significant pseudotranslation is detected.

<sup>&</sup>lt;sup>2</sup>Theoretical values of <|L|>,  $< L^2>$  for acentric reflections are 0.5, 0.333 respectively for untwinned datasets, and 0.375, 0.2 for perfectly twinned datasets.



<sup>&</sup>lt;sup>1</sup>Intensities estimated from amplitudes.

## 4 Model quality (i)

#### 4.1 Standard geometry (i)

MolProbity failed to run properly - this section is therefore empty.

### 4.2 Too-close contacts (i)

MolProbity failed to run properly - this section is therefore empty.

#### 4.3 Torsion angles (i)

#### 4.3.1 Protein backbone (i)

MolProbity failed to run properly - this section is therefore empty.

#### 4.3.2 Protein sidechains (i)

MolProbity failed to run properly - this section is therefore empty.

#### 4.3.3 RNA (i)

MolProbity failed to run properly - this section is therefore empty.

### 4.4 Non-standard residues in protein, DNA, RNA chains (i)

There are no non-standard protein/DNA/RNA residues in this entry.

### 4.5 Carbohydrates (i)

There are no monosaccharides in this entry.

### 4.6 Ligand geometry (i)

44 ligands are modelled in this entry.

There are no bond length outliers.

There are no bond angle outliers.

There are no chirality outliers.



There are no torsion outliers.

There are no ring outliers.

No monomer is involved in short contacts.

### 4.7 Other polymers (i)

There are no such residues in this entry.

## 4.8 Polymer linkage issues (i)

There are no chain breaks in this entry.



## 5 Fit of model and data (i)

#### 5.1 Protein, DNA and RNA chains (i)

EDS failed to run properly - this section is therefore empty.

### 5.2 Non-standard residues in protein, DNA, RNA chains (i)

EDS failed to run properly - this section is therefore empty.

### 5.3 Carbohydrates (i)

EDS failed to run properly - this section is therefore empty.

#### 5.4 Ligands (i)

EDS failed to run properly - this section is therefore empty.

### 5.5 Other polymers (i)

EDS failed to run properly - this section is therefore empty.

