

wwPDB X-ray Structure Validation Summary Report (i)

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PDB ID	:	1NKW
Title	:	Crystal Structure Of The Large Ribosomal Subunit From Deinococcus Radio-
		durans
Authors	:	Harms, J.M.; Schluenzen, F.; Zarivach, R.; Bashan, A.; Gat, S.; Agmon, I.;
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Deposited on	:	2003-01-05
Resolution	:	3.10 Å(reported)

This is a wwPDB X-ray Structure Validation Summary 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	:	4.02b-467
Xtriage (Phenix)	:	NOT EXECUTED
EDS	:	NOT EXECUTED
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)	:	2.35

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 3.10 Å.

Percentile scores (ranging between 0-100) for global validation metrics of the entry are shown in the following graphic. The table shows the number of entries on which the scores are based.



Metric	Whole archive $(\#Entries)$	Similar resolution $(\#Entries, resolution range(Å))$
Clashscore	141614	1184 (3.10-3.10)
RNA backbone	3102	1116 (3.40-2.80)

The table below summarises the geometric issues observed across the polymeric chains and their fit to the electron density. The red, orange, yellow and green segments of the lower bar indicate the fraction of residues that contain outliers for >=3, 2, 1 and 0 types of geometric quality criteria respectively. A grey segment represents the fraction of residues that are not modelled. The numeric value for each fraction is indicated below the corresponding segment, with a dot representing fractions <=5%

Note EDS was not executed.

Mol	Chain	Length	Quality of chain	
1	0	2880	21% 59%	15% •
2	9	124	18% 59%	19% 5%
3	А	275	98%	·
4	В	211	97%	·
5	С	205	96%	•
6	D	180	99%	
7	Е	212	83%	17%
8	F	146	3 4% • 64%	
9	G	144	99%	

Continued on next page...



Mol	Chain	Length	Quality of chain	
10	Н	174	82% 189	6
11	Ι	134	99%	•
12	J	156	90%	10%
13	Κ	142	87%	13%
14	L	116	98%	•
15	М	114	97%	•
16	Ν	166	74% • 25%	
17	Ο	118	99%	
18	Р	100	100%	
19	Q	134	97%	•
20	R	95	98%	·
21	\mathbf{S}	115	98%	·
22	Т	253	88%	12%
23	U	91	95%	5%
24	W	67	97%	•
25	Х	55	100%	
26	Y	73	100%	
27	Ζ	60	97%	•
28	1	82	65% 35%	
29	2	47	98%	•
30	3	64	98%	•
31	4	36	97%	•

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2 Entry composition (i)

There are 31 unique types of molecules in this entry. The entry contains 65300 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 RNA chain called 23S ribosomal RNA.

Mol	Chain	Residues	Atoms				ZeroOcc	AltConf	Trace	
1	0	2766	Total	\mathbf{C}	Ν	Ο	Р	0	0	0
1	0	2100	59359	26479	10949	19166	2765	Ŭ	Ŭ	Ū

• Molecule 2 is a RNA chain called 5S ribosomal RNA.

Mol	Chain	Residues	Atoms			ZeroOcc	AltConf	Trace		
2	9	118	Total 2519	C 1124	N 464	0 813	Р 118	0	0	0

• Molecule 3 is a protein called 50S ribosomal protein L2.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
3	А	270	Total C 270 270	0	0	270

• Molecule 4 is a protein called 50S ribosomal protein L3.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
4	В	205	Total C 205 205	0	0	205

• Molecule 5 is a protein called 50S ribosomal protein L4.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
5	С	197	Total C 197 197	0	0	197

• Molecule 6 is a protein called 50S ribosomal protein L5.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
6	D	178	Total C 178 178	0	0	178



• Molecule 7 is a protein called 50S ribosomal protein L6.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
7	Ε	177	Total C 177 177	0	0	177

• Molecule 8 is a protein called 50S ribosomal protein L9.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
8	F	52	$\begin{array}{cc} \text{Total} & \text{C} \\ 52 & 52 \end{array}$	0	0	52

• Molecule 9 is a protein called 50S ribosomal protein L11.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
9	G	143	Total C 143 143	0	0	143

• Molecule 10 is a protein called 50S ribosomal protein L13.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
10	Н	143	Total C 143 143	0	0	143

• Molecule 11 is a protein called 50S ribosomal protein L14.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
11	Ι	132	Total C 132 132	0	0	132

• Molecule 12 is a protein called 50S ribosomal protein L15.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
12	J	141	Total C 141 141	0	0	141

• Molecule 13 is a protein called 50S ribosomal protein L16.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
13	Κ	124	Total C 124 124	0	0	124

• Molecule 14 is a protein called 50S ribosomal protein L17.



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
14	L	114	Total C 114 11	0	0	114

• Molecule 15 is a protein called 50S ribosomal protein L18.

Mol	Chain	Residues	Ato	ms	ZeroOcc	AltConf	Trace
15	М	111	Total 111	C 111	8	0	111

• Molecule 16 is a protein called 50S ribosomal protein L19.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
16	Ν	125	Total C 125 12	0	0	125

• Molecule 17 is a protein called 50S ribosomal protein L20.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
17	О	117	Total C 117 117	16	0	117

• Molecule 18 is a protein called 50S ribosomal protein L21.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
18	Р	100	Total C 100 100	0	0	100

• Molecule 19 is a protein called 50S ribosomal protein L22.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
19	Q	130	Total C 130 130	0	0	130

• Molecule 20 is a protein called 50S ribosomal protein L23.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
20	R	93	Total C 93 93	0	0	93

• Molecule 21 is a protein called 50S ribosomal protein L24.



Mol	Chain	Residues	Ato	ms	ZeroOcc	AltConf	Trace
21	S	113	Total 113	C 113	0	0	113

• Molecule 22 is a protein called general stress protein CTC.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
22	Т	223	Total C 223 223	43	0	223

• Molecule 23 is a protein called 50S ribosomal protein L27.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
23	U	86	Total C 86 86	0	0	86

• Molecule 24 is a protein called 50S ribosomal protein L29.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
24	W	65	Total C 65 65	0	0	65

• Molecule 25 is a protein called 50S ribosomal protein L30.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
25	Х	55	$\begin{array}{cc} \text{Total} & \text{C} \\ 55 & 55 \end{array}$	4	0	55

• Molecule 26 is a protein called 50S ribosomal protein L31.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
26	Y	73	Total C 73 73	0	0	73

• Molecule 27 is a protein called 50S ribosomal protein L32.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
27	Z	58	Total C 58 58	0	0	58

• Molecule 28 is a protein called 50S ribosomal protein L33.



Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
28	1	53	Total C 53 53	0	0	53

• Molecule 29 is a protein called 50S ribosomal protein L34.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
29	2	46	Total C 46 46	0	0	46

• Molecule 30 is a protein called 50S ribosomal protein L35.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
30	3	63	Total C 63 63	0	0	63

• Molecule 31 is a protein called 50S ribosomal protein L36.

Mol	Chain	Residues	Atoms	ZeroOcc	AltConf	Trace
31	4	35	$\begin{array}{cc} \text{Total} & \text{C} \\ 35 & 35 \end{array}$	0	0	35



3 Residue-property plots (i)

These plots are drawn for all protein, RNA, DNA and oligosaccharide chains in the entry. The first graphic for a chain summarises the proportions of the various outlier classes displayed in the second graphic. The second graphic shows the sequence view annotated by issues in geometry. Residues are color-coded according to the number of geometric quality criteria for which they contain at least one outlier: green = 0, yellow = 1, orange = 2 and red = 3 or more. Stretches of 2 or more consecutive residues without any outlier are shown as a green connector. Residues present in the sample, but not in the model, are shown in grey.

Note EDS was not executed.

 \bullet Molecule 1: 23S ribosomal RNA



A7 03	G704 0705	47.06	<u>U707</u>		A/12 G713	-	U716 C717	A718	A7 19	A720	C721	0122	G726	U7.27	G7 28	G732	G733	G734	G/35 C736	C737	G738	G739	A740	G742	A743	C744	C/ 45 G7 46	A747	A7 48	C750	G751	G752	G754	C755	C756 11757	G758	C759	U760	4762 A762	A763	A764 6765	A766	G7 67	U768 C769	U770
C771	G772	A774	<u>U775</u>	G776	A/// G778	-	G781 11780	6783 6783	U784	U785	U786	A 1 0 1 C 7 8 8	G789	A790	G791	2610	A794	A795	A795	G798	C799	U800	A801	C803	C804	G805	A805 A807		U810	G812 G812	A813	G814	U816	A817	6818 C819	U820	A821	V Call	0024 C825	<mark>U826</mark>	C827	0200 C829	C830	G831 A832	A833
A834	U835	1837 U837	A838	U839	0840 G841	A842	G843 C844	U845	A846	C847	A848	11850	C853	-	U857 7959	1859	<u>U860</u>	<mark>G861</mark>	CB64	A865	U866	G867	U868 7060	C870	U871	G872	0673 A874	G875	A876	4879		A886	1000 (1888	C889	0890 4891	5	5	5 5	5 0	IJ	0 :	A	U	ວ 4	: 5
U	n	A	c i	C	A911 A912	A913	C914	U916	U917	A918	U919	4922	A923		C926	(328) (3928	A929	A930	1931	0333 0333	G934	C935	A936	G938	C939	G940	U942	U943	A944	G945 11946	C947	C948	G951	A952	G953 11954	G955	A956	6957 COER	C959	<mark>0960</mark>	G961	G963	A964	G965 A966	<mark>6967</mark>
C968	0969 1070	A971	C972	U973	0975 C975	C976	G977	4979 A979	G980	C981	C982	4984	G985	A986	G987	4990	A991		A994 Aggr	C996	-	49 <mark>9</mark> 9	G1000	C1002	C1003	A1004	01006	A1007	G1008	C1009 111010	A1011	A1012	C1017	C1018	01019 41020	A1021	A1022	U1023	41025 A1025	U1026	C1027	C1029	U1030	C1031 A1032	G1033
U1034	G1035	U1037	U1038	A1039	A1040 G1041	_	U1044	01046	G1047	U1048	210E2	G1054	A1055	U1056	A1057	00015	G1062	C1063	C1064	G1066	G1067	A1068	G1069	U1072	G1073	G1074	U1076	U1077	1	A1081 G1082	C1083	000 000	C1087	A1088	C1089 C1090	C1091	U1092	A 100E	A1096		A1099	U1101	G1102	C1103 C1104	U1105
1106	1107	1110	1111	1112	1113 1114	1115	1116 1117	, T T T	1121	1122	1123	11.25 11.25	1126		1130	1132	1133	1134	1135	1137	1138	1139	1140	1142		1145	1147	1148	1149	1150 1151	1152	1153 1153	1155	1156	1160 1160	1163	1164	1165 1165	1167	1168	17	1172	1173	1174 1175	>
79 A	80 A	82 G	83	84 U		ວ 06	91 07	83 83	94 G	95 A	96 97		99 A	00	01 01		04	C C C		08	0 <u>0</u>	A	12 12		17		50	21 G	22 22	23 24	25 25 C	26 87	28 28	U U	30	33 33	34 C	35 35	38 8	.39 G	40	41 42 U	43 G	44 G 45 A	46
A11	A11		C11	G11	5	C11	G11 A14	611 G11	U11	U11	G11 111		U11	G12	G12	A12	G12	G12	612	A12	G12		U12	210	U12	C12	G12 G12	C12	G12	G12 A12	G12	A12	G12 G12	C12	C12	A12	C12	CIZ	A12	A12	G12	A12	G12	012 612	G12
	G1249	G1251 G1251	C1252	C1253	61254 A1255	C1256	U1257	A1259	A1260	G1261	U1262	C1264	G1265	G1266	A1267	01200 G1269	C1270	C1271	G1272 C1973		U1276	G1277	A1278	U1280	A1281	10010	41285 A1285	U1286	A1287	A1288 A1289	A1290	G1291	A1293 A1293	G1294	01295	A1297	G1298	A1299	U1301	C1302	U1303	C1305	U1306	U1307 C1308	G1309
C1310	C1311	U1313	A1314	A1315	61316 61317	A1318	C1319 A1320	A1320 A1321	G1322	G1323	G1324	01325 111326	C1327	C1328	U1329	61332	G1333	A1334	A1335 C1336	G1337	G1338	U1339	C1340	01342	C1343	C1344	G1346	C1347	C1348	A1349 G1350	G1351	G1352	A1354 A1354	A1355	G1356	G1359		A1362	C1364 C1364	U1365	03010	G1369	U1370	G1371 A1372	G1373
G1374	C1375	G1377	A1378	A1379	C1380 C1381	G1382	C1383	G1385	A1386	G1387	C1388	C1300	A1391	U1392	G1393	A1397	G1398	C1399	A1400 C1401	G1402	U1403	C1404	A1405	G1407	A1408	U1409	01410 C1411	C1412	U1413	G1414 C1415	A1416	C1417	G1419 G1419		C1422 A1423	U1424	G1425	01426 61427	G142/ G1428	A1429	G1430	61432	A1433	01434 G1435	G1436
A1437	G1438	G1440	A1441	C1442	G1443 C1444	A1445	U1446 111477	0144/ A1448	C1449	G1450	C1451	01452 01453	U1454	C1455	C1456	A1458	U1459	G1460	C1461 C1462	A1463	A1464	G1465	C1466 111467	01407 A1468	U1469	G1470	G1471 C1472	U1473	A1474	01475 61476	C1477	U1478	G1480	U1481	01482 61483	G1484	U1485	A1486	0140/ G1488	C1489	U1490	01492	A1493	G1494 G1495	G1496
	U1500	G1502	G1503	G1504		A1509	A1 E10	01513	C1514	U1515	A1516	C1518	G1519	G1520	A1 E00	C1524		G1527	C1528	01530	C1531	A1532	G1533 A1524	A1 334 C1 535	G1536	U1537	A1 535 U1 539	C1540	G1541	G1542 G1543	A1544	G1545 G1545	01547	U1548	C1549 C1550	U1551	C1552	G1553 71 554	41554 A1555	A1556	G1557 C1558	01559 G1559	A1560	A1561 G1562	U1563
	G1571	G1573	A1574	C1575	G1577	U1578	G1579 C1580		A1583	G1584	A1585	A1500	A1588	G1589	C1590	111592	C1593	U1594	A1595 A1596	A1597	C1598	<mark>G1599</mark>	U1600 111 201	G1602	A1603	A1604		<mark>U1608</mark>	G1609	A1610 U1611	U1612	G1613	C1615	C1616	G1617 II1618	A1619	C1620	C1621	C1623	A1624	A1625	61627		A1630 C1631	A1632
C1633	A1634	G1636	U1637	G1638	01639 C1640	C1641	G1642 A1643	G1644	U1645		C1648	111651	G1652	C1653	A1654	U1656	A1657	A1658	C1661	G1662	C1663	G1664	C1665	A1667	G1668	A1669	A1671	A1672	C1673	C1675	U1676	C1677	U1679	U1680	A1681 A1682	G1683	G1684	A1685	A1000 C1687		U1690	G1692	A1693	A1694 111695	C1696



U1697	C1698 A1699		C1703	U1705	A1706	A1/0/ C1708	U1709	U1710	G1712 G1712	G1713	A1714	A1/15 C1716	A1717	A1718	G1720	G1721	G1722 111723	C1724	C1725	C1726	A1728	C1729	G1730	C1731 11732	U1733	C1734	G1735 C1736	G1737	U1738	G1740	G1741	G1742 C1743		61747 11748	G1749	A1750	A1751 U1752	A1753	G1754	G1756 C1756	C1757	C1/58 A1759	G1760
G1761	C1762 G1763	A1764	C1765 111766	G1767	U1768	01/08	A1771	C1772	01773 A1774	A1775	A1776	A1777 111778	C1779	A1780	01/01 A1782	G1783	C1784 A1785	C1786	U1787	C1788	G1790	C1791	C1792	A1793 A1794		A1799	A1800 C1801	A1802	G1803	01004 G1805	<mark>G1806</mark>	A1807 C1808	G1809	01810 41811	U1812	A1813	G1814 G1815	G1816	U1817	01819 U1819	G1820 A1821	A1821 C1822	G1823
C1824	01825 U1826	G1827	C1830	G1831	5	G1834 C1835	C1836	G1837	41839 A1839	A1840	G1841	G1842 111843	C1844	A1845	A 1040 G 1847	U1848	G1849 G1850	A1851		G1854	U1856	G1857	C1858	A1859 A1860	G1861	C1862	01863 01864	C1865	G1866	A100/ A1868	A1869	01870 G1871	A1872	A1873	U1881	G1882	A1883 A1884	C1885	G1886 61885	G1888 C1888	G1889	61890	U1900
A1901	A1902 C1903	G1904	G1905 111906	C1907	C1908	01909 01910	A1911	G1912	01914 U1914	A1915	G1916	C1917 61918	A1919	A1920	01922	U1923	C1924	U1926	U1927	G1928	01929 C1930	G1931	G1932	G1933 111934	A1935	A1936	G1937 111938	U1939	C1940	G1942	A1943	C1944 C1945	U1946	61947 C1948	A1949	C1950	G1951 A1952	A1953	A1954	G1956	C1957	G1958 U1959	A1960
A1961	C1962 G1963	A1964	U1965 C1966	U1967	G1968	61969 61970	C1971	G1972	01974 U1974	G1975	U1976	C1977 111978	C1979	A1980	A1301 C1982	-	C1989 111 000	C1991	G1992	G1993	01394 G1995	A1996	A1997	A1998 111 999	U2000	G2001	A2002 A2003	U2004	U2005	G2007	C2008	02009 G2010	U2011	A2012 A2013	A2014	G2015	A2016 U2017	G2018	C2019	G2021	C2022	U2023 U2024	A2025
C2026	C.50.51	U2030	A2031 62032	C2033	A2034	00038	G2039	A2040	A 2041 A 2042	A2043	G2044	A2045 C2046	C2047	C2048	G2050	U2051	G2052	A2054	G2055	C2056	U2058	U2059	A2060	A 2063	U2064	A2065	G2066 112067	C2068	U2069	G2071	C2072	A2073	G2076	G2077	A2079	U2080	U2081 C2082	G2083	G2084	42085 U2086		02091 C2091	U2092
G2093	G2095	U2096	A2097 G	. 0	A	D A	<mark>G2103</mark>	G2104	02106 G2106	G2107		22110 ر	00	D	ن و	IJ	A2117 A2118	A2119	C2120	U2121	G2123	C2124	C2125	n 11	ñ	Ū	5 5	 G2132	G2133 101 24	02134 C2135	G2136	62137 U2138	G2139	G2140	4 0	5	D ⊲	A	υυ	5 5	Þ	P C	A
A 	U A	C2157	C2158	C2160	C2161	C2162	G2164	A2165	42160 A2167	A2168	A2169	C2170 112171	U2172	G2173	421/4 A2175	U2176	U2177 112178	C2179	U2180	A2181	A2102 C2183	C2184	U2185	G2186	A2191	U2192	C2193 A7194	C2195	U2196	U2197 U2198	C2199	G2200 G2201	G2202	62203 47204	C2205	C2206	G2207 U2208	G2209	C2210	U2212 U2212	G2213	G2214 C2215	G2216
G2217	62218 U2219	A2220	C O O E	A2226	C2227	0.2228	G2230		G2234 G2234		G2238	C2239 C2240	U2241	C2242	C2243 C2244	A2245	A2246 A2245	A2248		U2251	7077N	G2255		G2261 C2262	C2263	C2264	A2265 A2266	A2267	G2268	U2270	C2271	A2272 C2273	C2274	U2275 C2276	A2277	A2278	G2279 A2280	C2281		02286 G2286	G2287	A2288 A2289	A2290
U2291	U2296	G2297	U2298 A7799	G2300	A2301	G2302 C2303		A2306	A2307 A2308	G2309	G2310	U2311 42312	G2313	A2314	A2315 G2316	G2317	U2318 22319	G2320	C2321	U2322	02324 G2324	A2325	C2326	U2327 C2328	C2329	G2330	A2331	<mark>U2335</mark>	G2336	A2001	G2341	U2342 C2343	G2344	A2345 C2346	C2347	A2348	62351	A2352	G2353	42354 A2355	A2356	1 G2 ZA	G2361
G2362	G2364 C2364	U2365	117369	G2370	A2371	A'23/ 2	G2375	G2376	G2378	G2379	U2380	A2381 C9389	C2383	G2384	0 2386 G 2386	-	G2389 A7390	A2391	G2392	G2393	G2395	C2396	A2397	U2398 Срада		U2402	C2403 42404	A2405	C2406	G2408	A2409	U2410 A2411	A2412	A2413 A2414	G2415		C2419 C2420	C2421	C2422	G2424 G2424	G2425	62420 A2427	U2428
A2429	A 2430 C 2431	A2432	G2433 C2434	C2435	U2436	62437 A 2438		C2446	62447 A2448	G2449		C2454	U2456	A2457	0 2450 C 2459	G2460	G2461 C2462	G2463	G2464	G2465	42467 A2467	G2468	G2469	U2470 112471	U2472	G2473	G2474 C2475	A2476	C2477	U2479	C2480	G2481 A2482	U2483	G2484 112485	C2486	G2487	G2488 C2489	U2490	C2491	62492 U2493	C2494	62495 C2496	A2497
U2498	C2499 C2500	U2501	G2502 G2503	G2504	1011 1011	02507	A2509	A2510	42512 A2512		G2515	U2516 C2517	C2518	C2519	A2521 A2521	G2522	G2523 C2524	U2525	U2526	COE SO	U2531	G2532	U2533	02534 C2535	G2536	C2537	C2538 C2539	A2540	U2541	02542 A2543	A2544	A2545 G2546	C2547	G2548 C7549	C2550	A2551	C2552 G2553	C2554	G2555 A2556	A2000 G2557	C2558	025560 G2560	G2561
G2562	U2564 U2564	C2565	A2566 C2567	A2568	A2569	C25/0 C2571	U2572	C2573	U2575	G2576	A2577	62579 47579	C2580	A2581	U2583	U2584	C2585 C2586	G2587	U2588	C2589	C2591	U2592	A2593	02594 C2595	C2596	G2597	C2598 112599		G2604	G2606	C2607	A2608 G2609	G2610	47613	A2614	U2615	U2616 G2617	A2618	G2619	G2621	G2622	G2624	U2625
U2626	G2628 C2628	U2629	C2630 C2631	U2632	A2633	17635	A2636	C2637	42030 A2639	G2640	A2641	G2642 G2643	A2644	C2645	07040	G2650	U2651 С2652	A2653	A2654	C2655	G2657	A2658	C2659	C2660 C2661	C2662		G2665 112666	C2667	U2668	C2670	C2671	02672 G2673	C2674	02675 C2676	U2677	C2678	G2679 112680	A2681	C2682	02003 A2684	A2685	02080 G2687	G2688







ASP VAL ALA ASN SER LEU ASP GLN CLEU CLEU



• Molecule 7: 50	S ribosomal	protein L6		
Chain E:		83%		17%
MET PRO GLN GLN ARG ARG ARG LEU HIS HIS LEU LEU LEU	LILL SER ALA PRO PRO PRO PRO ASP ASP ASP	ARG ASN LYS GLU ASP ASN MET ARG ARG	ds ds d181 LYS LYS LYS LYS LYS LYS	
• Molecule 8: 50	S ribosomal	protein L9		
Chain F:	34%		64%	
M1 L6 L6 L6 L14 GLU GLU GLU GLU GLU	ALA GLN GLU LYS ALA ALA GLU GLU ASP	LEU ALA SER ARG ARG ASN GLY VAL ALA VAL	CLU CLU LEU SER VAL ARG ALA GLY GLY GLY GLY CLYS ILYS	TYR GLY ALA VAL THR HTS GLN ASP VAL ALA
ASP VAL ASP ARG ARG LYS ILE ASP PRO THR THR	VAL LYS GLU VAL GLV GLV ASP ASP ILE	ALA TYR ARG ALA ALA HIS PRO GLU VAL VAL THR	PRO MET LYS LEU VAL HIS ALA ALA ALA LYS	
• Molecule 9: 50	S ribosomal	protein L11		
Chain G:		9	9%	
M143 ALA				
• Molecule 10: 5	0S ribosoma	al protein L13		
Chain H:		82%		18%
MET ALA PHE PRO ASP ASP VAL SER PRO PRO	GLY PRO SER SER PRO LYS SER SER	PRO LEU LEU ARG SER PHE LYS V29 V29	LYS	
• Molecule 11: 5	0S ribosoma	al protein L14	:	
Chain I:		99'	%	
MET 12 V 133 LEU				
• Molecule 12: 50	0S ribosoma	al protein L15	,	

Chain J: 90% 10%

• Molecule 13: 50S ribosomal protein L16



Chain K: 87% · 13%	
MET MET LEU PRO LYS ARG TB VAL VAL VAL VAL ASP GLU GLU GLU	
• Molecule 14: 50S ribosomal protein L17	
Chain L: 98%	•
MET H3 V116	
• Molecule 15: 50S ribosomal protein L18	
Chain M: 97%	•
ALLA ALLA F114 F114	
• Molecule 16: 50S ribosomal protein L19	
Chain N: 74% · 25%	-
MET 847 847 847 847 847 847 847 847 847 841 841 841 841 841 841 841 841 841 841	
\bullet Molecule 17: 50S ribosomal protein L20	
Chain O: 99%	•
\bullet Molecule 18: 50S ribosomal protein L21	
Chain P: 100%	-
There are no outlier residues recorded for this chain.	
• Molecule 19: 50S ribosomal protein $L22$	
Chain Q: 97%	·
ALA ALA Kisa	
• Molecule 20: 50S ribosomal protein L23	
Chain R: 98%	·

W O R L D W I D E PROTEIN DATA BANK



• Molecule 21: 50S ribosomal protein L24

Chain S: 98% • Molecule 22: general stress protein CTC Chain T: 88% 12% MET ALA ALA ALA GLY GLY CGLY CGLY GLY GLY THR ALA ASP THR THR • Molecule 23: 50S ribosomal protein L27 Chain U: 95% 5% • Molecule 24: 50S ribosomal protein L29 Chain W: 97% do<mark>h</mark> • Molecule 25: 50S ribosomal protein L30 Chain X: 100% There are no outlier residues recorded for this chain. • Molecule 26: 50S ribosomal protein L31 Chain Y: 100% There are no outlier residues recorded for this chain. • Molecule 27: 50S ribosomal protein L32 Chain Z: 97% • Molecule 28: 50S ribosomal protein L33



Chain 1:	65%	35%
MET PHE LEU LEU ARG GLN ALA	LEU GLY THR PHE PRO PRO PRO CIV CVAL CVA CVA CVA CVA CVA CVA CVA CVA CVA CVA	
• Molecul	e 29: 50S ribosomal protein L34	
Chain 2:	98%	.
M1 D46 GLU		
• Molecul	e 30: 50S ribosomal protein L35	
Chain 3:	98%	
MET P2 R64		
• Molecul	e 31: 50S ribosomal protein L36	
Chain 4:	97%	
MET K2 Q36		



4 Data and refinement statistics (i)

Xtriage (Phenix) and EDS were not executed - this section is therefore incomplete.

Property	Value	Source	
Space group	I 2 2 2	Depositor	
Cell constants	170.00Å 410.00Å 697.00Å	Depositor	
a, b, c, α , β , γ	90.00° 90.00° 90.00°	Depositor	
Resolution (Å)	15.00 - 3.10	Depositor	
% Data completeness	(Not available) $(15.00-3.10)$	Depositor	
(in resolution range)		Depositor	
R_{merge}	(Not available)	Depositor	
R _{sym}	(Not available)	Depositor	
Refinement program	CNS	Depositor	
R, R_{free}	0.240 , 0.274	Depositor	
Estimated twinning fraction	No twinning to report.	Xtriage	
Total number of atoms	65300	wwPDB-VP	
Average B, all atoms $(Å^2)$	47.0	wwPDB-VP	



5 Model quality (i)

5.1 Standard geometry (i)

The Z score for a bond length (or angle) is the number of standard deviations the observed value is removed from the expected value. A bond length (or angle) with |Z| > 5 is considered an outlier worth inspection. RMSZ is the root-mean-square of all Z scores of the bond lengths (or angles).

Mal	Chain	Bond	lengths	B	ond angles
	Unam	RMSZ	# Z > 5	RMSZ	# Z > 5
1	0	0.25	0/66467	0.70	6/103673~(0.0%)
2	9	0.59	0/2816	0.81	1/4388~(0.0%)
All	All	0.27	0/69283	0.70	7/108061~(0.0%)

Chiral center outliers are detected by calculating the chiral volume of a chiral center and verifying if the center is modelled as a planar moiety or with the opposite hand. A planarity outlier is detected by checking planarity of atoms in a peptide group, atoms in a mainchain group or atoms of a sidechain that are expected to be planar.

Mol	Chain	#Chirality outliers	#Planarity outliers
1	0	0	5

There are no bond length outliers.

The worst 5 of 7 bond angle outliers are listed below:

Mol	Chain	Res	Type	Atoms		$Observed(^{o})$	$Ideal(^{o})$
2	9	94	G	N9-C1'-C2'	-6.58	104.76	112.00
1	0	2428	U	N1-C1'-C2'	6.19	122.04	114.00
1	0	1279	G	N9-C1'-C2'	5.63	121.32	114.00
1	0	843	G	C2'-C3'-O3'	5.44	122.40	113.70
1	0	2660	С	N1-C1'-C2'	5.26	120.84	114.00

There are no chirality outliers.

All (5) planarity outliers are listed below:

Mol	Chain	Res	Type	Group
1	0	1264	С	Sidechain
1	0	1342	U	Sidechain
1	0	2251	U	Sidechain
1	0	2668	U	Sidechain
1	0	788	G	Sidechain



5.2 Too-close contacts (i)

In the following table, the Non-H and H(model) columns list the number of non-hydrogen atoms and hydrogen atoms in the chain respectively. The H(added) column lists the number of hydrogen atoms added and optimized by MolProbity. The Clashes column lists the number of clashes within the asymmetric unit, whereas Symm-Clashes lists symmetry-related clashes.

Mol	Chain	Non-H	H(model)	H(added)	Clashes	Symm-Clashes
1	0	59359	0	29917	2555	1
2	9	2519	0	1285	147	0
3	А	270	0	0	0	0
4	В	205	0	0	0	0
5	С	197	0	0	0	0
6	D	178	0	0	0	0
7	Е	177	0	0	0	0
8	F	52	0	0	1	0
9	G	143	0	0	0	0
10	Н	143	0	0	0	0
11	Ι	132	0	0	0	0
12	J	141	0	0	0	0
13	K	124	0	0	1	0
14	L	114	0	0	0	0
15	М	111	0	0	0	0
16	Ν	125	0	0	1	1
17	0	117	0	0	0	0
18	Р	100	0	0	0	0
19	Q	130	0	0	0	0
20	R	93	0	0	0	0
21	S	113	0	0	0	0
22	Т	223	0	0	0	0
23	U	86	0	0	0	0
24	W	65	0	0	0	0
25	Х	55	0	0	0	0
26	Y	73	0	0	0	0
27	Z	58	0	0	0	0
28	1	53	0	0	0	0
29	2	46	0	0	0	0
30	3	63	0	0	0	0
31	4	35	0	0	0	0
All	All	65300	0	31202	2696	1

The all-atom clashscore is defined as the number of clashes found per 1000 atoms (including hydrogen atoms). The all-atom clashscore for this structure is 28.

The worst 5 of 2696 close contacts within the same asymmetric unit are listed below, sorted by their clash magnitude.



Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1679:U:H2'	1:0:1680:U:H5"	1.22	1.12
1:0:362:C:H2'	1:0:363:G:H4'	1.34	1.10
1:0:918:A:H2'	1:0:919:U:H5"	1.29	1.10
1:0:2548:G:H2'	1:0:2549:G:H5"	1.10	1.09
1:0:2058:U:H1'	1:0:2576:G:H21	1.08	1.08

All (1) symmetry-related close contacts are listed below. The label for Atom-2 includes the symmetry operator and encoded unit-cell translations to be applied.

Atom-1	Atom-2	Interatomic distance (Å)	Clash overlap (Å)
1:0:1552:C:OP1	$16:N:47:SER:CA[8_455]$	1.97	0.23

5.3 Torsion angles (i)

5.3.1 Protein backbone (i)

There are no protein backbone outliers to report in this entry.

5.3.2 Protein sidechains (i)

There are no protein residues with a non-rotameric sidechain to report in this entry.

5.3.3 RNA (i)

Mol	Chain	Analysed	Backbone Outliers	Pucker Outliers
1	0	2757/2880~(95%)	523 (18%)	48 (1%)
2	9	117/124~(94%)	23 (19%)	1 (0%)
All	All	2874/3004~(95%)	546 (18%)	49 (1%)

 $5~{\rm of}~546$ RNA backbone outliers are listed below:

Mol	Chain	Res	Type
1	0	13	А
1	0	35	G
1	0	45	С
1	0	48	А
1	0	49	U

5 of 49 RNA pucker outliers are listed below:



Mol	Chain	Res	Type
1	0	1938	U
1	0	2204	А
1	0	1975	G
1	0	2018	G
1	0	2245	А

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

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

5.5 Carbohydrates (i)

There are no monosaccharides in this entry.

5.6 Ligand geometry (i)

There are no ligands in this entry.

5.7 Other polymers (i)

There are no such residues in this entry.

5.8 Polymer linkage issues (i)

There are no chain breaks in this entry.



6 Fit of model and data (i)

6.1 Protein, DNA and RNA chains (i)

EDS was not executed - this section is therefore empty.

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

EDS was not executed - this section is therefore empty.

6.3 Carbohydrates (i)

EDS was not executed - this section is therefore empty.

6.4 Ligands (i)

EDS was not executed - this section is therefore empty.

6.5 Other polymers (i)

EDS was not executed - this section is therefore empty.

