

Summary of integrative structure determination of Molecular assembly pathway of the human Nuclear Pore Complex after cell division (PDB ID: 9A25, PDB-Dev ID: PDBDEV_00000142)

1. Model Composition	
	<ul style="list-style-type: none"> - Nup133: chain(s) A, R, AI, AZ, BQ, CH, CY, DP (1156 residues) - Nup133: chain(s) AIS, AJB, AJK, AKN, AKW, ALF, AMI, AMR, ANA, AOD, AOM, AOV, APY, AQH, AQQ, ART, ASC, ASL, ATO, ATX, AUG, AVJ, AVS, AWB (1156 residues) - Nup107: chain(s) AIT, AJC, AJL, AKO, AKX, ALG, AMJ, AMS, ANB, AOE, AON, AOW, APZ, AQI, AQR, ARU, ASD, ASM, ATP, ATY, AUH, AVK, AVT, AWC (925 residues) - Nup96: chain(s) AIU, AJD, AJM, AKP, AKY, ALH, AMK, AMT, ANC, AOF, AOO, AOX, AQA, AQJ, AQS, ARV, ASE, ASN, ATQ, ATZ, AUI, AVL, AVU, AWD (1817 residues) - SEC13: chain(s) AIV, AJE, AJN, AKQ, AKZ, ALI, AML, AMU, AND, AOG, AOP, AOY, AQB, AQK, AQT, ARW, ASF, ASO, ATR, AUA, AUJ, AVM, AVV, AWE (322 residues) - SEH1: chain(s) AIW, AJF, AJO, AKR, ALA, ALJ, AMM, AMV, ANE, AOH, AOQ, AOZ, AQC, AQL, AQU, ARX, ASG, ASP, ATS, AUB, AUK, AVN, AVW, AWF (360 residues) - Nup85: chain(s) AIX, AJG, AJP, AKS, ALB, ALK, AMN, AMW, ANF, AOI, AOR, APA, AQD, AQM, AQV, ARY, ASH, ASQ, ATT, AUC, AUL, AVO, AVX, AWG (656 residues) - Nup43: chain(s) AIY, AJH, AJQ, AKT, ALC, ALL, AMO, AMX, ANG, AOJ, AOS, APB, AQE, AQN, AQW, ARZ, ASI, ASR, ATU, AUD, AUM, AVP, AVY, AWH (380 residues) - Nup160: chain(s) AIZ, AJI, AJR, AKU, ALD, ALM, AMP, AMY, ANH, AOK, AOT, APC, AQF, AQO, AQX, ASA, ASJ, ASS, ATV, AUE, AUN, AVQ, AVZ, AWI (1436 residues) - Nup37: chain(s) AJA, AJJ, AJS, AKV, ALE, ALN, AMQ, AMZ, ANI, AOL, AOU, APD, AQG, AQP, AQY, ASB, ASK, AST, ATW, AUF, AUO, AVR, AWA, AWJ (326 residues) - Nup93: chain(s) AJT, AJW, ALO, ALR, ANJ, ANM, APE, APH, AQZ, ARC, ASU, ASX, AUP, AUS, AWK, AWN (819 residues) - Nup205: chain(s) AJU, AJX, ALP, ALS, ANK, ANN, APF, API, ARA, ARD, ASV, ASY, AUQ, AUT, AWL, AWO (2012 residues) - Nup155: chain(s) AJV, AJY, AKL, AKM, ALQ, ALT, AMG, AMH, ANL, ANO, AOB, AOC, APG, APJ, APW, APX, ARB, ARE, ARR, ARS, ASW, ASZ, ATM, ATN, AUR, AUU, AVH, AVI, AWM, AWP, AXC, AXD (1391 residues) - p54: chain(s) AJZ, AKC, AKF, AKI, ALU, ALX, AMA, AMD, ANP, ANS, ANV, ANY, APK, APN, APQ, APT, ARF, ARI, ARL, ARO, ATA, ATD, ATG, ATJ, AUV, AUY, AVB, AVE, AWQ, AWT, AWW, AWZ (507 residues) - p58: chain(s) AKA, AKD, AKG, AKJ, ALV, ALY,

AMB, AME, ANQ, ANT, ANW, ANZ, APL, APO, APR, APU, ARG, ARJ, ARM, ARP, ATB, ATE, ATH, ATK, AUW, AUZ, AVC, AVF, AWR, AWU, AWX, AXA (599 residues)

- p62: chain(s) AKB, AKE, AKH, AKK, ALW, ALZ, AMC, AMF, ANR, ANU, ANX, AOA, APM, APP, APS, APV, ARH, ARK, ARN, ARQ, ATC, ATF, ATI, ATL, AUX, AVA, AVD, AVG, AWS, AWV, AWY, AXB (522 residues)
- Nup133: chain(s) AXE, AXN, AXW, AYF, AZO, AZX, BAG, BAP, BBY, BCH, BCQ, BCZ, BEI, BER, BFA, BFJ, BGS, BHB, BHK, BHT, BJC, BJL, BJU, BKD, BLM, BLV, BME, BMN, BNW, BOF, BOO, BOX (1156 residues)
- Nup107: chain(s) AXF, AXO, AXX, AYG, AZP, AZY, BAH, BAQ, BBZ, BCI, BCR, BDA, BEJ, BES, BFB, BFK, BGT, BHC, BHL, BHU, BJD, BJM, BJV, BKE, BLN, BLW, BMF, BMO, BNX, BOG, BOP, BOY (925 residues)
- Nup96: chain(s) AXG, AXP, AXY, AYH, AZQ, AZZ, BAI, BAR, BCA, BCJ, BCS, BDB, BEK, BET, BFC, BFL, BGU, BHD, BHM, BHV, BJE, BJN, BJW, BKF, BLO, BLX, BMG, BMP, BNY, BOH, BOQ, BOZ (1817 residues)
- SEC13: chain(s) AXH, AXQ, AXZ, AYI, AZR, BAA, BAJ, BAS, BCB, BCK, BCT, BDC, BEL, BEU, BFD, BFM, BGV, BHE, BHN, BHW, BJF, BJO, BJX, BKG, BLP, BLY, BMH, BMQ, BNZ, BOI, BOR, BPA (322 residues)
- SEH1: chain(s) AXI, AXR, AYA, AYJ, AZS, BAB, BAK, BAT, BCC, BCL, BCU, BDD, BEM, BEV, BFE, BFN, BGW, BHF, BHO, BHX, BJG, BJP, BJY, BKH, BLQ, BLZ, BMI, BMR, BOA, BOJ, BOS, BPB (360 residues)
- Nup85: chain(s) AXJ, AXS, AYB, AYK, AZT, BAC, BAL, BAU, BCD, BCM, BCV, BDE, BEN, BEW, BFF, BFO, BGX, BHG, BHP, BHY, BJH, BJQ, BJZ, BKI, BLR, BMA, BMJ, BMS, BOB, BOK, BOT, BPC (656 residues)
- Nup43: chain(s) AXK, AXT, AYC, AYL, AZU, BAD, BAM, BAV, BCE, BCN, BCW, BDF, BEO, BEX, BFG, BFP, BGY, BHH, BHQ, BHZ, BJI, BJR, BKA, BKJ, BLS, BMB, BMK, BMT, BOC, BOL, BOU, BPD (380 residues)
- Nup160: chain(s) AXL, AXU, AYD, AYM, AZV, BAE, BAN, BAW, BCF, BCO, BCX, BDG, BEP, BEY, BFH, BFQ, BGZ, BHI, BHR, BIA, BJJ, BJS, BKB, BKK, BLT, BMC, BML, BMU, BOD, BOM, BOV, BPE (1436 residues)
- Nup37: chain(s) AXM, AXV, AYE, AYN, AZW, BAF, BAO, BAX, BCG, BCP, BCY, BDH, BEQ, BEZ, BFI, BFR, BHA, BHJ, BHS, BIB, BJK, BJT, BKC, BKL, BLU, BMD, BMM, BMV, BOE, BON, BOW, BPF (326 residues)
- Nup93: chain(s) AYO, AYR, AYU, AYX, BAY, BBB, BBE, BBH, BDI, BDL, BDO, BDR, BFS, BFV, BFY, BGB, BIC, BIF, BII, BIL, BKM, BKP, BKS, BKV, BMW, BMZ, BNC, BNF, BPG, BPJ, BPM, BPP (819 residues)
- Nup205: chain(s) AYP, AYV, BAZ, BBF, BDJ, BDP, BFT, BFZ, BID, BIJ, BKN, BKT, BMX, BND, BPH, BPN (2012 residues)
- Nup155: chain(s) AYQ, AYT, AYW, AYZ, AZM, AZN, BBA, BBD, BBG, BBJ, BBW, BBX, BDK,

[Entry composition](#)

BDN, BDQ, BDT, BEG, BEH, BFU, BFX, BGA, BGD, BGQ, BGR, BIE, BIH, BIK, BIN, BJA, BJB, BKO, BKR, BKU, BKX, BLK, BLL, BMY, BNB, BNE, BNH, BNU, BNV, BPI, BPL, BPO, BPR, BQE, BQF (1391 residues)

- Nup188: chain(s) AYS, AYY, BBC, BBI, BDM, BDS, BFW, BGC, BIG, BIM, BKQ, BKW, BNA, BNG, BPK, BPQ (1749 residues)
- p54: chain(s) AZA, AZD, AZG, AZJ, BBK, BBN, BBQ, BBT, BDU, BDX, BEA, BED, BGE, BGH, BGK, BGN, BIO, BIR, BIU, BIX, BKY, BLB, BLE, BLH, BNI, BNL, BNO, BNR, BPS, BPV, BPY, BQB (507 residues)
- p58: chain(s) AZB, AZE, AZH, AZK, BBL, BBO, BBR, BBU, BDV, BDY, BEB, BEE, BGF, BGI, BGL, BGO, BIP, BIS, BIV, BIY, BKZ, BLC, BLF, BLI, BNJ, BNM, BNP, BNS, BPT, BPW, BPZ, BQC (599 residues)
- p62: chain(s) AZC, AZF, AZI, AZL, BBM, BBP, BBS, BBV, BDW, BDZ, BEC, BEF, BGG, BGJ, BGM, BGP, BIQ, BIT, BIW, BIZ, BLA, BLD, BLG, BLJ, BNK, BNN, BNQ, BNT, BPU, BPX, BQA, BQD (522 residues)
- Nup107: chain(s) B, S, AJ, BA, BR, CI, CZ, DQ (925 residues)
- Nup96: chain(s) C, T, AK, BB, BS, CJ, DA, DR (1817 residues)
- SEC13: chain(s) D, U, AL, BC, BT, CK, DB, DS (322 residues)
- SEH1: chain(s) E, V, AM, BD, BU, CL, DC, DT (360 residues)
- Nup133: chain(s) EG, FA, FU, GO, HI, IC, IW, JQ (1156 residues)
- Nup107: chain(s) EH, FB, FV, GP, HJ, ID, IX, JR (925 residues)
- Nup96: chain(s) EI, FC, FW, GQ, HK, IE, IY, JS (1817 residues)
- SEC13: chain(s) EJ, FD, FX, GR, HL, IF, IZ, JT (322 residues)
- SEH1: chain(s) EK, FE, FY, GS, HM, IG, JA, JU (360 residues)
- Nup85: chain(s) EL, FF, FZ, GT, HN, IH, JB, JV (656 residues)
- Nup43: chain(s) EM, FG, GA, GU, HO, II, JC, JW (380 residues)
- Nup160: chain(s) EN, FH, GB, GV, HP, IJ, JD, JX (1436 residues)
- Nup37: chain(s) EO, FI, GC, GW, HQ, IK, JE, JY (326 residues)
- Nup93: chain(s) EP, ES, FJ, FM, GD, GG, GX, HA, HR, HU, IL, IO, JF, JI, JZ, KC (819 residues)
- Nup205: chain(s) EQ, ET, FK, FN, GE, GH, GY, HB, HS, HV, IM, IP, JG, JJ, KA, KD (2012 residues)
- Nup155: chain(s) ER, EU, EY, EZ, FL, FO, FS, FT, GF, GI, GM, GN, GZ, HC, HG, HH, HT, HW, IA, IB, IN, IQ, IU, JH, JK, JO, JP, KB, KE, KI, KJ (1391 residues)
- p54: chain(s) EV, FP, GJ, HD, HX, IR, JL, KF (507 residues)
- p58: chain(s) EW, FQ, GK, HE, HY, IS, JM, KG (599 residues)
- p62: chain(s) EX, FR, GL, HF, HZ, IT, JN, KH (522 residues)

- Nup85: chain(s) F, W, AN, BE, BV, CM, DD, DU (656 residues)
- Nup43: chain(s) G, X, AO, BF, BW, CN, DE, DV (380 residues)
- Nup160: chain(s) H, Y, AP, BG, BX, CO, DF, DW (1436 residues)
- Nup37: chain(s) I, Z, AQ, BH, BY, CP, DG, DX (326 residues)
- Nup93: chain(s) J, AA, AR, BI, BZ, CQ, DH, DY (819 residues)
- Nup205: chain(s) K, AB, AS, BJ, CA, CR, DI, DZ (2012 residues)
- Nup133: chain(s) KK, KT, LT, MC, NC, NL, OL, OU, PU, QD, RD, RM, SM, SV, TV, UE (1156 residues)
- Nup107: chain(s) KL, KU, LU, MD, ND, NM, OM, OV, PV, QE, RE, RN, SN, SW, TW, UF (925 residues)
- Nup96: chain(s) KM, KV, LV, ME, NE, NN, ON, OW, PW, QF, RF, RO, SO, SX, TX, UG (1817 residues)
- SEC13: chain(s) KN, KW, LW, MF, NF, NO, OO, OX, PX, QG, RG, RP, SP, SY, TY, UH (322 residues)
- SEH1: chain(s) KO, KX, LX, MG, NG, NP, OP, OY, PY, QH, RH, RQ, SQ, SZ, TZ, UI (360 residues)
- Nup85: chain(s) KP, KY, LY, MH, NH, NQ, OQ, OZ, PZ, QI, RI, RR, SR, TA, UA, UJ (656 residues)
- Nup43: chain(s) KQ, KZ, LZ, MI, NI, NR, OR, PA, QA, QJ, RJ, RS, SS, TB, UB, UK (380 residues)
- Nup160: chain(s) KR, LA, MA, MJ, NJ, NS, OS, PB, QB, QK, RK, RT, ST, TC, UC, UL (1436 residues)
- Nup37: chain(s) KS, LB, MB, MK, NK, NT, OT, PC, QC, QL, RL, RU, SU, TD, UD, UM (326 residues)
- Nup155: chain(s) L, P, Q, AC, AG, AH, AT, AX, AY, BK, BO, BP, CB, CF, CG, CS, CW, CX, DJ, DN, DO, EA, EE, EF (1391 residues)
- Nup93: chain(s) LC, LF, ML, MO, NU, NX, PD, PG, QM, QP, RV, RY, TE, TH, UN, UQ (819 residues)
- Nup205: chain(s) LD, LG, MM, MP, NV, NY, PE, PH, QN, QQ, RW, RZ, TF, TI, UO, UR (2012 residues)
- Nup155: chain(s) LE, LH, LR, LS, MN, MQ, NA, NB, NW, NZ, OJ, OK, PF, PI, PS, PT, QO, QR, RB, RC, RX, SA, SK, SL, TG, TJ, TT, TU, UP, US, VC, VD (1391 residues)
- p54: chain(s) LI, LL, LO, MR, MU, MX, OA, OD, OG, PJ, PM, PP, QS, QV, QY, SB, SE, SH, TK, TN, TQ, UT, UW, UZ (507 residues)
- p58: chain(s) LJ, LM, LP, MS, MV, MY, OB, OE, OH, PK, PN, PQ, QT, QW, QZ, SC, SF, SI, TL, TO, TR, UU, UX, VA (599 residues)
- p62: chain(s) LK, LN, LQ, MT, MW, MZ, OC, OF, OI, PL, PO, PR, QU, QX, RA, SD, SG, SJ, TM, TP, TS, UV, UY, VB (522 residues)
- p54: chain(s) M, AD, AU, BL, CC, CT, DK, EB (507 residues)
- p58: chain(s) N, AE, AV, BM, CD, CU, DL, EC

(599 residues)
 - p62: chain(s) O, AF, AW, BN, CE, CV, DM, ED (522 residues)
 - Nup133: chain(s) VE, VN, VW, WW, XF, XO, YO, YX, ZG, AAG, AAP, AAY, ABY, ACH, ACQ, ADQ, ADZ, AEI, AFI, AFR, AGA, AHA, AHJ, AHS (1156 residues)
 - Nup107: chain(s) VF, VO, VX, WX, XG, XP, YP, YY, ZH, AAH, AAQ, AAZ, ABZ, ACI, ACR, ADR, AEA, AEJ, AFJ, AFS, AGB, AHB, AHK, AHT (925 residues)
 - Nup96: chain(s) VG, VP, VY, WY, XH, XQ, YQ, YZ, ZI, AAI, AAR, ABA, ACA, ACJ, ACS, ADS, AEB, AEK, AFK, AFT, AGC, AHC, AHL, AHU (1817 residues)
 - SEC13: chain(s) VH, VQ, VZ, WZ, XI, XR, YR, ZA, ZJ, AAJ, AAS, ABB, ACB, ACK, ACT, ADT, AEC, AEL, AFL, AFU, AGD, AHD, AHM, AHV (322 residues)
 - SEH1: chain(s) VI, VR, WA, XA, XJ, XS, YS, ZB, ZK, AAK, AAT, ABC, ACC, ACL, ACU, ADU, AED, AEM, AFM, AFV, AGE, AHE, AHN, AHW (360 residues)
 - Nup85: chain(s) VJ, VS, WB, XB, XK, XT, YT, ZC, ZL, AAL, AAU, ABD, ACD, ACM, ACV, ADV, AEE, AEN, AFN, AFW, AGF, AHF, AHO, AHX (656 residues)
 - Nup43: chain(s) VK, VT, WC, XC, XL, XU, YU, ZD, ZM, AAM, AAV, ABE, ACE, ACN, ACW, ADW, AEF, AEO, AFO, AFX, AGG, AHG, AHP, AHY (380 residues)
 - Nup160: chain(s) VL, VU, WD, XD, XM, XV, YV, ZE, ZN, AAN, AAW, ABF, ACF, ACO, ACX, ADX, AEG, AEP, AFP, AFY, AGH, AHH, AHQ, AHZ (1436 residues)
 - Nup37: chain(s) VM, VV, WE, XE, XN, XW, YW, ZF, ZO, AAO, AAX, ABG, ACG, ACP, ACY, ADY, AEH, AEQ, AFQ, AFZ, AGI, AHI, AHR, AIA (326 residues)
 - Nup93: chain(s) WF, WI, XX, YA, ZP, ZS, ABH, ABK, ACZ, ADC, AER, AEU, AGJ, AGM, AIB, AIE (819 residues)
 - Nup205: chain(s) WG, WJ, XY, YB, ZQ, ZT, ABI, ABL, ADA, ADD, AES, AEW, AGK, AGN, AIC, AIF (2012 residues)
 - Nup155: chain(s) WH, WK, WU, WV, XZ, YC, YM, YN, ZR, ZU, AAE, AAF, ABJ, ABM, ABW, ABX, ADB, ADE, ADO, ADP, AET, AEW, AFG, AFH, AGL, AGO, AGY, AGZ, AID, AIG, AIQ, AIR (1391 residues)
 - p54: chain(s) WL, WO, WR, YD, YG, YJ, ZV, ZY, AAB, ABN, ABQ, ABT, ADF, ADI, ADL, AEX, AFA, AFD, AGP, AGS, AGV, AIH, AIK, AIN (507 residues)
 - p58: chain(s) WM, WP, WS, YE, YH, YK, ZW, ZZ, AAC, ABO, ABR, ABU, ADG, ADJ, ADM, AEY, AFB, AFE, AGQ, AGT, AGW, AII, AIL, AIO (599 residues)
 - p62: chain(s) WN, WQ, WT, YF, YI, YL, ZX, AAA, AAD, ABP, ABS, ABV, ADH, ADK, ADN, AEZ, AFC, AFF, AGR, AGU, AGX, AIJ, AIM, AIP (522 residues)

<i>Datasets used for modeling</i>	<ul style="list-style-type: none"> - Experimental model, PDB: 5a9q - 3DEM volume, Zenodo: 10.5281/zenodo.6908584 - 3DEM volume, Zenodo: 10.5281/zenodo.6908584 - 3DEM volume, Zenodo: 10.5281/zenodo.6908584 - 3DEM volume, Zenodo: 10.5281/zenodo.6908584 - 3DEM volume, Zenodo: 10.5281/zenodo.6908584 - 3DEM volume, Zenodo: 10.5281/zenodo.6908584 - Experimental model, PDB: 5ijn
2. Representation	
<i>Number of representations</i>	6
<i>Scale</i>	<ul style="list-style-type: none"> - Multiscale: Coarse-grained: 1 - 10 residue(s) per bead - Multiscale: Coarse-grained: 1 - 10 residue(s) per bead - Multiscale: Coarse-grained: 1 - 10 residue(s) per bead - Multiscale: Coarse-grained: 1 - 10 residue(s) per bead - Multiscale: Coarse-grained: 1 - 10 residue(s) per bead - Multiscale: Coarse-grained: 1 - 10 residue(s) per bead
<i>Number of rigid and flexible segments</i>	<ul style="list-style-type: none"> - 136, 0 - 160, 0 - 280, 0 - 352, 0 - 376, 0 - 496, 0
3. Restraints	
<i>Physical principles</i>	Information about physical principles was not provided
<i>Experimental data</i>	- 1 unique OuterSurfaceGeometricRestraint: Gaussian Mixture Model
4. Validation	
<i>Number of ensembles</i>	0
<i>Number of models in ensembles</i>	Not applicable
<i>Number of deposited models</i>	6
<i>Model precision (uncertainty of models)</i>	Not available

<i>Data quality</i>	Data quality has not been assessed
<i>Model quality: assessment of excluded volume</i>	Satisfaction: 99.95-99.99%
<i>Fit to data used for modeling</i>	Fit of model to information used to compute it has not been determined
<i>Fit to data used for validation</i>	Fit of model to information not used to compute it has not been determined
5. Methodology and Software	
1. <i>Name</i>	Sampling
<i>Description</i>	MC sampling with 1000000 steps
2. <i>Name</i>	Sampling
<i>Description</i>	MC sampling with 1000000 steps
3. <i>Name</i>	Sampling
<i>Description</i>	MC sampling with 1000000 steps
4. <i>Name</i>	Sampling
<i>Description</i>	MC sampling with 1000000 steps
5. <i>Name</i>	Sampling
<i>Description</i>	MC sampling with 1000000 steps
6. <i>Name</i>	Sampling
<i>Description</i>	MC sampling with 1000000 steps
<i>Software</i>	<ul style="list-style-type: none"> - Integrative Modeling Platform (version 2.13.0) - gmconvert (version v2020.05.10)