Here are 100 highly specific, scientifically accurate AlphaFold and UniProt commands designed to stress-test your bio_science_scout and api_handler swarm agents.

They are categorized by biological discipline so you can test how well your agents map protein structures, extract PDB coordinates, and generate summaries for different medical research fields.

🧬 Oncology & Tumor Suppressors (Cancer Research)

1. "Nexus, dispatch bio_science_scout to map the AlphaFold DB entry for UniProt P04637 (p53) and summarize its tumor suppression binding sites."
2. "Have the api_handler extract the 3D atomic coordinates from AlphaFold for BRCA1 (P38398)."
3. "Nexus, pull the predicted structure for EGFR (P00533) and analyze its extracellular domain."
4. "Task bio_science_scout to cross-reference the AlphaFold structure of HER2 (P04626) with known breast cancer therapeutics."
5. "Query AlphaFold for the KRAS oncoprotein (P01116) and report the confidence score of its switch regions."
6. "Nexus, extract the PDB file for NRAS (P01111) using the api_handler."
7. "Launch bio_science_scout to map the HRAS protein structure and identify its GTP binding pocket."
8. "Nexus, fetch the AlphaFold prediction for the MYC transcription factor (P01106)."
9. "Task the swarm to analyze the PTEN phosphatase structure (P60484) via AlphaFold."
10. "Have the api_handler pull the full AlphaFold JSON metadata for Retinoblastoma protein RB1 (P06400)."
11. "Nexus, query the AlphaFold database for the APC tumor suppressor (P25054)."
12. "Dispatch bio_science_scout to examine the BRAF kinase domain structure (P15056)."
13. "Pull the AlphaFold 3D model for ALK tyrosine kinase (Q9UM73)."
14. "Nexus, map the RET proto-oncogene (P07949) using AlphaFold."
15. "Task api_handler to download the AlphaFold spatial coordinates for ROS1 (P08922)."
16. "Query the AlphaFold DB for the MET hepatocyte growth factor receptor (P08581)."
17. "Nexus, extract the UniProt ID and AlphaFold mapping for TRKA (P04629)."
18. "Launch bio_science_scout to study the PIK3CA catalytic subunit structure."
19. "Fetch the AlphaFold prediction for CDK4 (P11802) and summarize its kinase activity."
20. "Nexus, map the AlphaFold sequence for the MDM2 ubiquitin ligase (Q00987)."

🧠 Neurology & Neurodegenerative Diseases

21. "Nexus, task bio_science_scout to pull the AlphaFold structure for Amyloid beta precursor APP (P05067)."
22. "Have api_handler extract the AlphaFold PDB for MAPT/Tau protein (P10636)."
23. "Nexus, map the AlphaFold coordinates for Alpha-synuclein SNCA (P37840)."
24. "Dispatch the swarm to analyze the Huntingtin protein HTT (P42858) using AlphaFold."
25. "Query AlphaFold for the LRRK2 Parkinson's disease target (Q5S007)."
26. "Nexus, pull the 3D prediction for TARDBP/TDP-43 (Q13148)."
27. "Task bio_science_scout to map the PSEN1 presenilin-1 structure (P49768)."
28. "Have the api_handler fetch the AlphaFold data for PSEN2 (P49810)."
29. "Nexus, query the AlphaFold structure for Apolipoprotein E / APOE (P02649)."
30. "Extract the AlphaFold prediction for TREM2 microglial receptor (Q9NZC2)."
31. "Launch bio_science_scout to analyze PINK1 kinase (Q9BXM7) folding."
32. "Nexus, map the Parkin PRKN ubiquitin ligase (O60260) via AlphaFold."
33. "Fetch the AlphaFold DB entry for SOD1 superoxide dismutase (P00441)."
34. "Task the swarm to pull the FUS RNA-binding protein structure (P35637)."
35. "Nexus, extract the AlphaFold model for the C9orf72 protein (Q96LT7)."
36. "Query AlphaFold for Ataxin-1 ATXN1 (P54252) and check its folding confidence."
37. "Have api_handler download the structural metadata for Ataxin-2 ATXN2 (Q99700)."
38. "Nexus, map the AlphaFold coordinates for Ataxin-3 ATXN3 (P54252)."
39. "Dispatch bio_science_scout to analyze SMN1 (Q16637) for Spinal Muscular Atrophy."
40. "Pull the predicted 3D structure of VCP valosin-containing protein (P55072) from AlphaFold."

🦠 Virology, Pathogens & Immunology

41. "Nexus, launch bio_science_scout to map the AlphaFold prediction for SARS-CoV-2 Spike Protein (P0DTC2)."
42. "Have api_handler extract the structural coordinates for HIV-1 Envelope Glycoprotein."
43. "Nexus, query AlphaFold for the Influenza A Hemagglutinin structure."
44. "Task the swarm to analyze the Ebola Virus Glycoprotein (Q05320) via AlphaFold."
45. "Pull the AlphaFold DB entry for Zika Virus Envelope protein (Q32ZE1)."
46. "Nexus, map the RSV Fusion glycoprotein structure (P03420)."
47. "Extract the AlphaFold prediction for Dengue Virus Envelope protein (P27915)."
48. "Dispatch bio_science_scout to examine the CD4 T-cell receptor (P01730)."
49. "Nexus, fetch the AlphaFold 3D model for the CD8 alpha chain (P01732)."

50. "Query AlphaFold for the CD28 co-stimulatory molecule (P10747)."
51. "Have the api_handler download the PDB file for PD-1 (Q15116)."
52. "Nexus, map the AlphaFold coordinates for PD-L1 (Q9NZQ7)."
53. "Task bio_science_scout to analyze the CTLA-4 immune checkpoint protein (P16410)."
54. "Pull the AlphaFold prediction for Interleukin-2 IL-2 (P60568)."
55. "Nexus, extract the structural data for Interleukin-6 IL-6 (P05231)."
56. "Query the AlphaFold DB for TNF-alpha tumor necrosis factor (P01375)."
57. "Have api_handler fetch the AlphaFold geometry for IFN-gamma (P01579)."
58. "Nexus, map the MHC Class I HLA-A protein structure (P04439)."
59. "Dispatch the swarm to look up MHC Class II HLA-DRA (P01903) on AlphaFold."
60. "Task bio_science_scout to analyze TLR4 Toll-like receptor 4 (O00206) folding."

🩸 Metabolic, Cardiovascular & Rare Diseases

61. "Nexus, dispatch bio_science_scout to map the AlphaFold structure for Human Insulin INS (P01308)."
62. "Have api_handler extract the AlphaFold data for the Glucagon receptor GCGR (P47871)."
63. "Nexus, query AlphaFold for the LDL Receptor LDLR (P01130)."
64. "Pull the 3D structural prediction for PCSK9 (Q8NBP7) from AlphaFold."
65. "Task the swarm to analyze the CFTR Cystic Fibrosis transmembrane conductance regulator (P13569)."
66. "Nexus, map the AlphaFold coordinates for Dystrophin DMD (P11532)."
67. "Extract the AlphaFold prediction for Coagulation Factor VIII F8 (P00451)."
68. "Launch bio_science_scout to study the Hemoglobin alpha chain HBA1 (P69905)."
69. "Nexus, fetch the AlphaFold DB entry for Hemoglobin beta chain HBB (P68871)."
70. "Query AlphaFold for the PAH phenylalanine hydroxylase enzyme (P00439)."
71. "Have api_handler download the PDB for Glucocerebrosidase GBA (P04062)."
72. "Nexus, map the AlphaFold structure for Hexosaminidase A HEXA (P06865)."
73. "Task bio_science_scout to analyze the NPC1 Niemann-Pick disease protein (O15118)."
74. "Pull the AlphaFold prediction for Alpha-galactosidase A GLA (P06280)."
75. "Nexus, extract the structural metadata for SMPD1 Acid sphingomyelinase (P17405)."
76. "Query the AlphaFold DB for GAA Acid alpha-glucosidase (P10253)."
77. "Have api_handler fetch the AlphaFold model for ATP7A Menkes disease protein (Q04656)."
78. "Nexus, map the IDUA Alpha-L-iduronidase structure (P35475) using AlphaFold."
79. "Dispatch the swarm to look up MYBPC3 Myosin-binding protein C (Q14896)."
80. "Task bio_science_scout to analyze the LDLRAP1 protein folding (Q5SW96)."

🧬 Structural, Synthetic Biology & API Stress Tests

81. "Nexus, task bio_science_scout to extract the AlphaFold structure for SpCas9 CRISPR nuclease (Q99ZW2)."
82. "Have api_handler pull the AlphaFold 3D coordinates for Cas12a/Cpf1."
83. "Nexus, query AlphaFold for the Taq DNA Polymerase structure (P19821)."
84. "Fetch the AlphaFold prediction for Green Fluorescent Protein GFP (P42212)."
85. "Dispatch the swarm to analyze Red Fluorescent Protein RFP via AlphaFold."
86. "Nexus, map the AlphaFold coordinates for Firefly Luciferase (P08659)."
87. "Extract the AlphaFold prediction for Collagen Type I COL1A1 (P02452)."
88. "Launch bio_science_scout to study Human Keratin KRT1 (P04264)."
89. "Nexus, fetch the AlphaFold DB entry for Beta-actin ACTB (P60709)."
90. "Query AlphaFold for the Alpha-tubulin TUBA1A structure (Q71DI3)."
91. "Have api_handler download the PDB for Myosin heavy chain MYH7 (P12883)."
92. "Nexus, map the AlphaFold structure for Kinesin-1 KIF5B (P33176)."
93. "Task bio_science_scout to analyze the Dynein heavy chain DYNC1H1 (Q14204)."
94. "Pull the AlphaFold prediction for Titin TTN (Q8WZ42)—ensure the API can handle massive token payloads."
95. "Nexus, extract the structural metadata for Human Myoglobin MB (P02144)."
96. "Query the AlphaFold DB for Cytochrome C CYCS (P99999)."
97. "Have api_handler fetch the AlphaFold model for Bovine Rhodopsin RHO (P02699)."
98. "Nexus, map the ATP Synthase subunit alpha ATP5F1A (P25705) using AlphaFold."
99. "Dispatch the swarm to look up the 60S ribosomal protein L3 RPL3 (P39023)."
100. "Task bio_science_scout to map the entire AlphaFold DB entry for Telomerase reverse transcriptase TERT (O14746)."

Testing Pro-Tip: Because bio_science_scout is registered in your nexus_agentic_core.py Swarm array, the system will use your new ||LAUNCH_JOB: bio_science_scout | ... || regex to pipe these requests to the background queue, allowing the API handler to fetch the heavy JSON datasets without holding up the voice WebSockets!