

网络书籍、文档和文献资源检索和应用

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1. 分子月报 (Molecular of the Month):

1) 按功能分类, 该网站的生物大分子分为哪几大类?

分为以下六类:

- (1) Protein Synthesis
- (2) Enzymes
- (3) Health and Disease
- (4) Biological Energy
- (5) Infrastructure and Communication
- (6) Biotechnology and Nanotechnology

2) 2000 年 12 篇月报中描述的蛋白质分子, 你熟悉的有哪些?

- (1) Ribosomal Subunits
- (2) Lysozyme
- (3) Restriction Enzymes
- (4) Nucleosome
- (5) Cytochrome c Oxidase
- (6) DNA Polymerase
- (7) Myoglobin

3) 有关 DNA、rRNA、tRNA 的月报有哪几篇?

- (1) DNA
- (2) Designed DNA Crystal
- (3) Transfer RNA
- (4) Transfer-Messenger RNA

4) 该网站中和 DNA 复制相关的蛋白质分子有哪些?

- (1) DNA Helicase
- (2) DNA Polymerase
- (3) Sliding Clamps

5) 该网站中介绍的病毒有哪些?

- (1) Adenovirus
 - (2) Bacteriophage phiX174
 - (3) Dengue Virus
 - (4) HIV Capsid
 - (5) HIV Envelope Glycoprotein
 - (6) HIV-1 Protease
 - (7) Hemagglutinin
 - (8) Influenza Neuraminidase
 - (9) Integrase
 - (10) Parvoviruses
 - (11) Poliovirus and Rhinovirus
 - (12) Reverse Transcriptase
 - (13) Simian Virus 40
 - (14) Tobacco Mosaic Virus
- 6) 该网站中你熟悉的酶分子有哪些?
- (1) Nitrogenase
 - (2) DNA Polymerase
 - (3) Glycogen Phosphorylase
 - (4) GlcNAc Transferase
 - (5) RNA Polymerase
 - (6) cAMP-dependent Protein Kinase (PKA)
 - (7) Acetylcholinesterase
 - (8) Caspases
 - (9) Lysozyme
 - (10) Pepsin
 - (11) Thrombin
 - (12) Trypsin
 - (13) Topoisomerases
 - (14) Aminoacyl-tRNA Synthetases
 - (15) DNA Ligase

(16) Glutamine Synthetase

(17) Ribosome

- 7) 阅读该网站关于血红蛋白的短文,说明其结合和释放氧气时不同亚基之间如何协同作用。

首先一个氧分子与血红蛋白四个亚基中的一个结合,与氧结合之后的珠蛋白结构发生变化,造成整个血红蛋白结构的变化,这种变化使得第二个氧分子相比于第一个氧分子更容易寻找血红蛋白的另一个亚基结合,而它的结合会进一步促进第三个氧分子的结合,以此类推直到构成血红蛋白的四个亚基分别与四个氧分子结合。而在组织内释放氧的过程也是这样,一个氧分子的离去会刺激另一个的离去,直到完全释放所有的氧分子。

- 8) 阅读该网站关于流感病毒神经氨酸酶 (Influenza Neuraminidase) 的短文,说明其结构特征和作用机制。

神经氨酸酶是一个四聚体,由四个结构完全相同的单体亚基组合而成,其中每两个亚基通过一个二硫键相互链接,每两对单体即四个单体组成一个四聚体。每一个单体由球形的头部和细长的颈部两部分组成,头部是神经氨酸酶的活性部位,颈部则负责将蛋白锚定在病毒包膜表面。四聚体蛋白通过纤细的颈部与包膜连接,形状犹如蘑菇,神经氨酸酶的活性头部是由六个 β 片层围绕成的桶状结构,桶状结构的内部是该酶的催化中心。

神经氨酸酶负责催化唾液酸与糖蛋白之间糖苷键的水解。流感病毒感染宿主后其表面的血凝素与宿主上皮细胞表面的血凝素受体结合,进入细胞,其基因利用宿主细胞的资源进行复制和表达,最终重新组装成新的流感病毒颗粒,以出芽的形式突出宿主细胞,但是成熟的流感病毒与宿主细胞之间,仍然依靠血凝素分子末端的唾液酸残基与血凝素受体分子表面的糖基团以 2-6 或 2-3 糖苷键链接,这使得流感病毒无法立即脱离宿主细胞。神经氨酸酶负责催化水解这一重要的糖苷键,使成熟的病毒颗粒最终脱离宿主细胞,感染新的上皮细胞,造成流感病毒在患者体内的扩散。

- 9) 列举该网站中与你研究方向相关的生物大分子。

(1) p53 Tumor Suppressor

(2) Hsp90

(3) Ubiquitin

(4) Antibodies

(5) Toll-like Receptors

(6) Cytochrome c

(7) Insulin

(8) cAMP-dependent Protein Kinase

(9) G Proteins

(10) Glucose Oxidase

- 10) 阅读你最感兴趣的生物大分子，阐述该分子的结构、功能特点。

肌球蛋白 Myosin:

肌球蛋白是真核细胞内的一类分子马达，对细胞的运动与传输起着重要的作用。其分子形状如豆芽状，由两条重链和多条轻链构成。两条重链的大部分相互螺旋形地缠绕为杆状，构成豆芽状的杆；重链的剩余部分与轻链一起，构成豆芽的瓣。被激活后，具有活性的、能分解 ATP 的 ATP 酶。在粗丝中，都是分子的头朝向粗丝的两端，呈纵向线性缔合排列。

2. 蛋白质分子精选 (Protein Spotlight)

- 1) 和分子月报 (Molecule of the Month) 相比，该网站在文章内容、写作风格、数据库链接、文献引用等方面有什么特点？

Protein Spotlight 采用讲述故事的方式讲述与所讲分子相关的背景、研究历史、功能等，数据库链接为 UniProtKB 中的蛋白质信息，文献引用为文章内容参考文献，附有 PubMed 链接，而 Molecule of the Month 采用百科式的形式叙述分子的结构、功能等信息，数据库链接为 PDB 中的结构信息，文献引用为延伸阅读。

- 2) 阅读该网站关于胰岛素分子的短文，说明作者将其称作“20 世纪蛋白质分子的代表”的原因。

20 世纪，胰岛素是第一批纯化结晶出来的蛋白，是第一个实现完全测序，第一个实现化学合成，第一个通过生化方法制造的蛋白，它一直处于 20 世纪蛋白质研究的最前端。

- 3) 阅读该网站关于绿色荧光蛋白 (GFP) 短文 (The greenest of us all) 以及相关文献，说明该蛋白质分子的结构功能特点。

该分子的 3D 结构为 β -can，是直径为 30Å，高度为 40Å 的桶状结构。十一个 β 折叠平行排列构成了桶的主体， α 螺旋运行着中间轴并支撑着该蛋白的发光团。

作用原理：其发光团序列 Ser-Tyr-Gly 在少量氧气的帮助下环状就能发光。

- 4) 该网站中你最感兴趣的蛋白质分子有哪些？简述它们的生物学功能。

类胰岛素生长因子 1 Insulin-like growth factor 1

是由 70 个氨基酸组成的具有内分泌、自分泌及旁分泌特性的单链多肽，主要由人肝细胞合成和分泌，是一类促进细胞生长、具有胰岛素样代谢效应的因子。IGF-1 受营养状态、激素、遗传等多因素的调节，在心血管疾病、内分泌代谢病及肿瘤等的病理生理过程中发挥重要作用。

- 5) 该网站中与你研究方向相关的蛋白质分子有哪些？简述它们的生物学功能。

胰岛素 Insulin

胰岛素由两个单体通过三个双硫键紧紧结合在一起，每个单体由两条链组成，其中富含亮氨酸和异亮氨酸，聚集中间形成一个疏水中心。而其表面富含赖氨酸、精氨酸、谷氨酸有亲水性。二硫键也稳定了整个胰岛素的结构。表面亲水，内部疏水，有利于其在血液中的溶解和运输。胰岛素参与调节糖代谢，控制血糖平衡，可用于

治疗糖尿病。

3. NCBI 免费书籍 (Bookshelf)

1) 浏览该免费书籍目录, 与你研究方向最相关的书有哪几本?

(1) *Molecular Biology of the Cell*. 4th edition.

Alberts B, Johnson A, Lewis J, et al.

New York: Garland Science; 2002.

(2) *Essentials of Glycobiology*. 2nd edition.

Varki A, Cummings RD, Esko JD, et al., editors.

Cold Spring Harbor (NY): Cold Spring Harbor Laboratory Press; 2009.

(3) *The Genetic Landscape of Diabetes* [Internet].

Dean L, McEntyre J.

Bethesda (MD): National Center for Biotechnology Information (US); 2004.

(4) *Genes, Behavior, and the Social Environment: Moving Beyond the Nature/Nurture Debate*.

Institute of Medicine (US) Committee on Assessing Interactions Among Social, Behavioral, and Genetic Factors in Health; Hernandez LM, Blazer DG, editors.

Washington (DC): National Academies Press (US); 2006.

2) 浏览该免费书籍目录, 其中生物化学、分子生物学、细胞生物学和遗传学相关书籍有哪些? 列出你最感兴趣的书名和作者。

(1) Siegel GJ, Agranoff BW, Albers RW, et al., editors. *Basic Neurochemistry: Molecular, Cellular and Medical Aspects*. 6th edition. Philadelphia: Lippincott-Raven; 1999.

(2) Berg JM, Tymoczko JL, Stryer L. *Biochemistry*. 5th edition. New York: W H Freeman; 2002.

(3) Varki A, Cummings RD, Esko JD, et al., editors. *Essentials of Glycobiology*. 2nd edition. Cold Spring Harbor (NY): Cold Spring Harbor Laboratory Press; 2009.

(4) *Annual Reviews Collection* [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2002 Nov.

(5) Pagon RA, Adam MP, Bird TD, et al., editors. *GeneReviews™* [Internet]. Seattle (WA): University of Washington, Seattle; 1993-2014.

(6) *WormBook: The Online Review of C. elegans Biology* [Internet]. Pasadena (CA): WormBook; 2005-.

(7) Lodish H, Berk A, Zipursky SL, et al. *Molecular Cell Biology*. 4th edition. New York: W. H. Freeman; 2000.

(8) Alberts B, Johnson A, Lewis J, et al. *Molecular Biology of the Cell*. 4th edition. New York: Garland Science; 2002.

(9) Griffiths AJF, Miller JH, Suzuki DT, et al. *An Introduction to Genetic Analysis*. 7th

- edition. New York: W. H. Freeman; 2000.
- (10) Zhu MX, editor. TRP Channels. Boca Raton (FL): CRC Press; 2011.
 - (11) Brown TA. Genomes. 2nd edition. Oxford: Wiley-Liss; 2002.
 - (12) Cooper GM. The Cell: A Molecular Approach. 2nd edition. Sunderland (MA): Sinauer Associates; 2000.
 - (13) Riddle DL, Blumenthal T, Meyer BJ, et al., editors. *C. elegans* II. 2nd edition. Cold Spring Harbor (NY): Cold Spring Harbor Laboratory Press; 1997.
 - (14) StemBook [Internet]. Cambridge (MA): Harvard Stem Cell Institute; 2008-.
 - (15) Griffiths AJF, Gelbart WM, Miller JH, et al. Modern Genetic Analysis. New York: W. H. Freeman; 1999.
 - (16) Sittampalam GS, Gal-Edd N, Arkin M, et al., editors. Assay Guidance Manual [Internet]. Bethesda (MD): Eli Lilly & Company and the National Center for Advancing Translational Sciences; 2004-.
 - (17) Tan SL, editor. Hepatitis C Viruses: Genomes and Molecular Biology. Norfolk (UK): Horizon Bioscience; 2006.
 - (18) Koonin EV, Galperin MY. Sequence - Evolution - Function: Computational Approaches in Comparative Genomics. Boston: Kluwer Academic; 2003.
 - (19) Dean L, McEntyre J. The Genetic Landscape of Diabetes [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2004.
 - (20) Strachan T, Read AP. Human Molecular Genetics. 2nd edition. New York: Wiley-Liss; 1999.
 - (21) Rohrmann GF. Baculovirus Molecular Biology: Third Edition [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2013.
 - (22) Borgaonkar DS. Chromosomal Variation in Man: A Catalog of Chromosomal Variants and Anomalies: Online NLM Version [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 1975-.
 - (23) Mapping Protein/DNA Interactions by Cross-Linking [Internet]. Paris: Institut national de la santé et de la recherche médicale; 2001.
 - (24) Kamkin A, Kiseleva I, editors. Mechanosensitivity in Cells and Tissues. Moscow: Academia; 2005.
 - (25) Morrison PJ, Spence RAJ. Genetics for Surgeons. London: Remedica; 2005.
 - (26) Frank SA. Immunology and Evolution of Infectious Disease. Princeton (NJ): Princeton University Press; 2002.
 - (27) Dean M. The Human ATP-Binding Cassette (ABC) Transporter Superfamily [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 2002 Nov 18.
 - (28) Grippo PJ, Munshi HG, editors. Pancreatic Cancer and Tumor Microenvironment. Trivandrum (India): Transworld Research Network; 2012.
 - (29) National Center for Biotechnology Information (US). Genes and Disease [Internet]. Bethesda (MD): National Center for Biotechnology Information (US); 1998-.

最感兴趣: Molecular Biology of the Cell. 4th edition.

Alberts B, Johnson A, Lewis J, et al.

- 3) 采用限制检索条件策略 (Limits), 分别检索生物化学 (Biochemistry)、分子生物学

(Molecular Biology) 和疾病 (Disease) 三类书籍中血红蛋白 (Hemoglobin), 比较检索结果。

Biochemistry 检索结果:

- (1) Biochemistry. 5th edition.
- (2) Basic Neurochemistry: Molecular, Cellular and Medical Aspects. 6th edition.

Molecular Biology 检索结果:

- (1) Molecular Biology of the Cell. 4th edition.
- (2) Molecular Cell Biology. 4th edition.
- (3) Human Molecular Genetics. 2nd edition.
- (4) The Cell: A Molecular Approach. 2nd edition.

Disease 检索结果:

- (1) GeneReviews™ [Internet].
- (2) Guidelines for the Clinical Management of Thalassaemia [Internet]. 2nd Revised edition.
- (3) Defining and Defeating the Intolerable Burden of Malaria III: Progress and Perspectives: Supplement to Volume 77(6) of American Journal of Tropical Medicine and Hygiene.
- (4) The Intolerable Burden of Malaria II: What's New, What's Needed: Supplement to Volume 71(2) of the American Journal of Tropical Medicine and Hygiene.
- (5) The Intolerable Burden of Malaria: A New Look at the Numbers: Supplement to Volume 64(1) of the American Journal of Tropical Medicine and Hygiene.
- (6) Disease and Mortality in Sub-Saharan Africa. 2nd edition.
- (7) Fabry Disease: Perspectives from 5 Years of FOS.
- (8) Genes and Disease [Internet].
- (9) The Genetic Landscape of Diabetes [Internet].
- (10) Polymicrobial Diseases.
- (11) The Epilepsies: Seizures, Syndromes and Management.
- (12) An Introduction to Epilepsy [Internet].
- (13) Expert Panel Report 3: Guidelines for the Diagnosis and Management of Asthma.
- (14) Jasper's Basic Mechanisms of the Epilepsies [Internet]. 4th edition.

(15) Imitators of Epilepsy. 2nd edition.

(16) Parkinson's Disease: Diagnosis and Clinical Management.

(17) Bioinformatics in Tropical Disease Research: A Practical and Case-Study Approach [Internet].

采用限制检索条件策略 (Limits)，可以检索关键词在特定领域的结果。

- 4) 列举 3-5 个与你研究课题相关的关键词 (英文)；以上述关键词检索相关类别的书籍，可在哪几本书中检索到相关信息？

关键词: Nutritional and Metabolic Diseases, inflammation, Cardiovascular disease, ubiquitination

结果: Madame Curie Bioscience Database [Internet]. Austin (TX): Landes Bioscience; 2000-.

- 5) 根据上述检索信息，简述与你研究领域特别是与你课题相关的方面，已有哪些研究基础。

蛋白质泛素化修饰在多种代谢疾病中发挥作用。

4. PubMed 文献摘要数据库

- 1) PubMed 生物医学文献摘要数据库和 PubMed Central 全文数据库有哪些主要区别？

PubMed 生物医学文献摘要数据库为摘要数据库，不提供文献全文；

PubMed Central 全文数据库提供文献全文。

- 2) PubMed 医学主题词 (Medical Subject Heading, MeSH) 包括哪些大类？生物科学领域 (Biological Science Discipline, H01.158) 包括哪些学科？生物学学科 (Biology, H01.158.273) 包括哪些分支？遗传学分支 (Genetics, H01.158.273.343) 包括哪些研究方向？你的研究方向属于哪个大类？哪个领域？哪个学科？哪个分支？

PubMed 医学主题词 (Medical Subject Heading, MeSH) 包括以下大类：

(1) Anatomy [A]

(2) Organisms [B]

(3) Diseases [C]

(4) Chemicals and Drugs [D]

(5) Analytical, Diagnostic and Therapeutic Techniques and Equipment [E]

(6) Psychiatry and Psychology [F]

(7) Phenomena and Processes [G]

(8) Disciplines and Occupations [H]

(9) Anthropology, Education, Sociology and Social Phenomena [I]

- (10) Technology, Industry, Agriculture [J]
- (11) Humanities [K]
- (12) Information Science [L]
- (13) Named Groups [M]
- (14) Health Care [N]
- (15) Publication Characteristics [V]
- (16) Geographicals [Z]

生物科学领域（Biological Science Discipline, H01.158）包括以下学科：

- (1) Anatomy [H01.158.100]
- (2) Biochemistry [H01.158.201]
- (3) Biology [H01.158.273]
- (4) Biophysics [H01.158.344]
- (5) Biotechnology [H01.158.550]
- (6) Chronobiology Discipline [H01.158.580]
- (7) Neurosciences [H01.158.610]
- (8) Pharmacology [H01.158.703]
- (9) Physiology [H01.158.782]

生物学学科（Biology, H01.158.273）包括以下分支：

- (1) Botany [H01.158.273.118]
- (2) Computational Biology [H01.158.273.180]
- (3) Cell Biology [H01.158.273.190]
- (4) Developmental Biology [H01.158.273.200]
- (5) Ecology [H01.158.273.248]
- (6) Exobiology [H01.158.273.295]
- (7) Genetics [H01.158.273.343]
- (8) Laboratory Animal Science [H01.158.273.368]
- (9) Microbiology [H01.158.273.540]
- (10) Natural History [H01.158.273.602]
- (11) Neurobiology [H01.158.273.610]
- (12) Parasitology [H01.158.273.688]

- (13) Photobiology [H01.158.273.738]
- (14) Radiobiology [H01.158.273.789]
- (15) Sociobiology [H01.158.273.866]
- (16) Synthetic Biology [H01.158.273.904]
- (17) Zoology [H01.158.273.943]

遗传学分支 (Genetics, H01.158.273.343) 包括:

- (1) Cytogenetics [H01.158.273.343.180]
- (2) Genetic Research [H01.158.273.343.249]
- (3) Genetics, Behavioral [H01.158.273.343.290]
- (4) Genetics, Medical [H01.158.273.343.315]
- (5) Genetics, Microbial [H01.158.273.343.330]
- (6) Genetics, Population [H01.158.273.343.335]
- (7) Genomics [H01.158.273.343.350]
- (8) Immunogenetics [H01.158.273.343.420]
- (9) Molecular Biology [H01.158.273.343.595]
- (10) Pharmacogenetics [H01.158.273.343.750]
- (11) Radiation Genetics [H01.158.273.343.800]

我的研究方向 Cell Biology [H01.158.273.190]属于 Disciplines and Occupations 大类, Biological Science Disciplines 领域, Biology 学科, Cell Biology 分支。

- 3) 分子生物学 (Molecular Biology) 同时属于哪几个学科? 哪几个分支? 包括什么专题研究方向?
- (1) [H01.158.201.636], Biochemistry 学科, Molecular Biology 分支, 包括 Molecular Medicine 专题研究方向。
 - (2) [H01.158.273.343.595], Biology 学科, Genetics 分支, Molecular Biology 方向, 包括 Molecular Medicine 专题研究方向。
 - (3) [H01.181.122.650], Chemistry 学科, Biochemistry 分支, Molecular Biology 方向, 包括 Molecular Medicine 专题研究方向。
- 4) 生物信息学 (Bioinformatics) 在 MeSH 数据库中归哪个主题词? 其研究方向和范围包括哪些?

Computational Biology [H01.158.273.180]主题词

研究方向和范围包括:

- (1) Genomics [H01.158.273.180.350]

(2) Metabolomics [H01.158.273.180.599]

(3) Systems Biology [H01.158.273.180.800]

- 5) 何谓 PubMed 检索时的 Stop 词? 常见 Stop 词有哪些?

Stop 词即为“禁用词”，是检索中的无效词汇，检索时将被忽略。

常见 Stop 词有 a, about, again, all, almost, also, although, always, among, an, and, another, any, are, as, at, be, because, been, before, being, between, both, but, by, can, could, did, do, does, done, due, during 等等。

- 6) 简述 PubMed 高级检索的用法。

PubMed 高级检索可限定检索范围，包括作者、通讯地址、发表日期、杂志等等，并通过多个检索项目之间建立逻辑关系，包括并 (AND)、或 (OR)、否 (NOT) 等，通过多种限定可以实现对关键词的精确检索。

- 7) 以作者单位 (Affiliation) 分别检索农科院和你所在研究所，共检索到多少文献? 其中 2013 年以来发表的有多少篇? 列出与你研究方向相关的前 10 篇论文目录。

- 8) 以作者单位 (Affiliation) 分别检索北京大学生命科学学院和北京大学分子医学研究所，共检索到多少文献? 其中 2013 年以来发表的有多少篇? 列出与你研究方向相关的论文目录。

北京大学生命科学学院: 1253 篇, 2013 年以来 218 篇。

北京大学分子医学研究所: 114 篇, 2013 年以来 41 篇。

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 - (8) 8: Liu Y, Wang ZH, Tang JG. Flexibility exists in the region of [A6-A11, A7-B7] disulfide bonds during insulin precursor folding. *J Biochem*. 2004 Jan;135(1):1-6. PubMed PMID: 14999003.
 - (9) 9: Jiang W, Bai Z, Zhang D, Shi Y, Yong J, Chen S, Ding M, Deng H. Differentiation of mouse nuclear transfer embryonic stem cells into functional pancreatic beta cells. *Diabetologia*. 2008 Sep;51(9):1671-9. doi: 10.1007/s00125-008-1065-1. Epub 2008 Jun 26. PubMed PMID: 18581093.
 - (10) 10: Yin D, Tang JG. Gene therapy for streptozotocin-induced diabetic mice by electroporational transfer of naked human insulin precursor DNA into skeletal muscle in vivo. *FEBS Lett*. 2001 Apr 20;495(1-2):16-20. PubMed PMID: 11322940.
- 9) 以你研究方向和课题相关的关键词，检索 PubMed，共检索到多少篇相关文献？检索你导师或你所在实验室 2000 年以来发表的论文，列出与你研究方向相关的前 10 篇论文目录。

共检索到 32 篇文献

与我研究方向相关的前 10 篇论文目录：

- (1) 1: Lin P, Zhu H, Cai C, Wang X, Cao C, Xiao R, Pan Z, Weisleder N, Takeshima H, Ma J. Nonmuscle myosin IIA facilitates vesicle trafficking for MG53-mediated cell membrane repair. *FASEB J*. 2012 May;26(5):1875-83. doi: 10.1096/fj.11-188599. Epub 2012 Jan 17. PubMed PMID:22253476; PubMed Central PMCID: PMC3336789.
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- (6) 6: Yu H, Chen X, Zhu W, Cao C. A quasi-experimental study of Chinese top-level speed skaters' training load: threshold versus polarized model. *Int J Sports Physiol Perform*. 2012 Jun;7(2):103-12. PubMed PMID: 22634959.
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- (8) 8: Zhang Z, Qun J, Cao C, Wang J, Li W, Wu Y, Du L, Zhao P, Gong K. Apolipoprotein A-I mimetic peptide D-4F promotes human endothelial progenitor cell proliferation, migration, adhesion through eNOS/NO pathway. *Mol Biol Rep*. 2012 Apr;39(4):4445-54. doi: 10.1007/s11033-011-1233-0. Epub 2011 Sep 25. PubMed PMID: 21947883.
- (9) 9: Sun Z, Zhang J, Zhang J, Chen C, Du Q, Chang L, Cao C, Zheng M, Garcia-Barrio MT, Chen YE, Xiao RP, Mao J, Zhu X. Rad GTPase induces cardiomyocyte apoptosis through the activation of p38 mitogen-activated protein kinase. *Biochem Biophys Res Commun*. 2011 May 27;409(1):52-7. doi: 10.1016/j.bbrc.2011.04.104. Epub 2011 Apr 28. PubMed PMID: 21549102.
- (10) 10: Wang G, Zhu X, Xie W, Han P, Li K, Sun Z, Wang Y, Chen C, Song R, Cao C, Zhang J, Wu C, Liu J, Cheng H. Rad as a novel regulator of excitation-contraction coupling and beta-adrenergic signaling in heart. *Circ Res*. 2010 Feb 5;106(2):317-27. doi: 10.1161/CIRCRESAHA.109.208272. Epub 2009 Nov 19. PubMed PMID: 19926875.

10) 结合 PubMed 网站帮助文档和用户指南，总结 PubMed 文献检索的策略和经验。

- (1) 精炼关键词
- (2) 运用恰当的逻辑关系

5. My NCBI 用法:

1) 如何保存文献检索结果?

在检索结果页面中检索栏下方点击 Save search。

- 2) 如何自动获取更新文献?

Save search 后在给出的页面中 Would you like e-mail updates of new search results 一项中点击 Yes。

- 3) 如何将检索结果导入个人文献集 (My Bibliography) ?

在检索结果页面或的文献页面中, 点击右上角 Send to 发送到 My Bibliography.

- 4) 如何将个人文献集与他人共享?

在 My NCBI 的 settings 中更改 private 为 public, 保存后即出现分享链接。

- 5) 如何设置文献属性筛选条件 (Filter) ?

在 My NCBI 的 Filters 中选择筛选条件, 即可在搜索结果页的右上角显示不同条件的结果。

- 6) 如何保存其它数据库检索结果?

在其他数据库的检索结果页面中检索栏下方点击 Save search。

- 7) 如何保存 Blast 搜索策略?

在检索结果页面上方点击 Save Search Strategies。

- 8) 根据以上具体用法, 结合帮助文档, 总结 MyNCBI 的特点和用途。

(1) 个性化设置

(2) 建立个人文集并与他人共享

(3) 保存检索结果和策略

(4) 及时更新检索结果