Common prefixes and suffixes in Biology

- ad-: to, toward 向，朝
  adhere 粘附，adrenal 肾上腺的 （renal 肾的）
- aero-: air 空气
  aerobic 有氧的 anaerobic 无氧的，厌氧的
- ambi-, amphi-: both, on both sides
  ambiguity 模棱两可，amphibian 两栖动物，amphipathic 两亲性的
- anti-: against 反对、抗
  antibody 抗体，antiviral 抗病毒的，antifungal 抗真菌的，antioxidant 抗氧化剂
- auto-: self 自己
  autotroph 自养生物，autolysis 自溶，autophagy 细胞自噬

- bacter-: bacterium 细菌
  bacteriophage 噬菌体，bactericide 杀菌剂
- bio-: life, living 生命 生活
  biology，biomass生物量，biodegradable生物可降解的，biotic生物的
- cata-: breakdown, downward
  catalyst 催化剂
- centr: center 中心
  centriole 中心粒
- cerebr-: brain 脑
  cerebrum 大脑
- eco-: environment, nature 生态，环境
  Ecology，ecosystem
- end-, endo-: inside, within 内部
  endotherm 内温动物，endoplasm内质，endocrine内分泌的，endocytosis内吞
- exo-: outside, external 外部
  exoskeleton 外骨骼，exocrine 外分泌的，exocytosis 外吐

- hetero-: different, other 不同的，其他的
  heterotroph 异养生物，heterozygous 杂合的，heterogeneous 异质的，heterochromatin 异染色质
- homo-: same, alike 相同的，相似的
  homogeneous 同质的，homologous同源的，homozygous纯合的
- micro-: small 小的
  microorganism 微生物，microscope 显微镜，microscopic微观的
- macro: large 大的
  macroscopic 宏观的，macroalgae 大型藻类
- photo-: light 光
  photosynthesis 光合作用，photoreceptor 光受体
- poly-: many 多
  polyploidy 多倍体，polypeptide 多肽，polymer 聚合物，polyandry 一雌多雄
- fer-: bear, carry, produce 产，带来
  fertilization 受精

- thermo-: heat 热
  thermoregulation 体温调节，thermophilic 嗜热的，thermodynamics 热力学
- trans-: across, beyond 穿过，超越
  translocation 易位，transcription 转录 （script-: write 写），transgenic 转基因的
- uni-: one 单一
  unicellular 单细胞的，unisexual 单性的
- epi-: upon, over 在…上面
  epidermis 上皮，epigenetic 表冠遗传的，epidemic 流行病
- hyper-: over, above 过度，在…之上
  hyperactive 过度活跃的，hypertension 高血压，hyperthermia 过热
- hypo-: under, below 低于，在…之下
  hypothermia 失温，hypotension 低血压，hypoxia 缺氧，hypodermic 皮下的
- di-: two, double 二、双
  diploid 二倍体，Disaccharide 二糖 （sacchar-: sugar 糖）
- eu-: well, true 好
  eukaryote 真核生物

- inter-: between 在…之间

  intercellular 细胞间的，interbreed 杂交，interphase 间期

- intra-: within 在…内

  intracellular 细胞内的，intravenous 静脉内的，intraspecific 种内的，intramolecular 分子内的

- iso-: equal, same 相等的，相同的

  isotope 同位素，isomer 同分异构体，isotonic 等渗的，isometric 等距的

- mono-: one 单一，一个

  monomer 单体，monosaccharide 单糖，monocot 单子叶植物

- multi-: many 多

  multicellular 多细胞的，multiform多形的，multilateral 多边的

- geo-: land, earth

  biogeochemical 生物地球化学的，geography 地理

- gymno-: naked

  gymnosperm 裸子植物 （angiosperm 被子植物）

- hypl-: simple 单一
  haploid 单倍体
- kary-: cell nucleus
  karyotype 染色体组型，eukaryote 真核生物，prokaryote 原核生物
- pan-: all 全部
  pandemic 大流行病
- path-: disease, suffering 病
  pathogen 病原体，pathology 病理学
- phag-: eat 吃
  phagocyte 吞噬细胞
- pheno: show 显示
  phenotype 表现型
- phyl: related group 类
  phylogeny 系统发生
- stom-: mouth 口
  stomata 气孔
- troph-: nourishment 营养
  autotroph 自养生物 trophic 营养的
- zyg-: joined together 结合
  zygote 合子
- vas-: vessel 血管，管
  vascular tissue 围观组织

- -ase: enzyme 酶
  lactase 乳糖酶，protease 蛋白酶，lipase 脂肪酶，DNAse DNA酶
- -cide: killer, killing 杀
  pesticide 杀虫剂，herbicide 除草剂，bactericide 杀菌剂，fungicide 杀真菌剂，insecticide 杀虫剂
- -cyte: cell 细胞
  leukocyte 白细胞，hepatocyte 肝细胞，erythrocyte 红细胞，osteocyte 骨细胞
- -gen: producer, origin 产生，起源
  pathogen 病原体，antigen 抗原，allergen 过敏原，mutagen 诱变剂
- -philia: love, attraction 喜爱，吸引; -phobia: fear of 恐惧
  hydrophilia, hydrophobia; hemophilia 血友病，thermophilia 嗜热，acrophobia 恐高症
- -plasm: formative substance 形成物质
  cytoplasm 细胞质；nucleoplasm 核质，protoplasm 原生质，hyaloplasm 透明质
- -statis: standing still 停滞，稳定
  homeostasis 体内平衡，hemostasis 止血

- -derm: skin, layer 皮、层
  epidermis 表皮，dermatology 皮肤科，endoderm 内胚层，mesoderm 中胚层，ectoderm 外胚层
- -lysis: breakdown, destruction 分解，破坏
  hydrolysis 水解，glycolysis 糖酵解
- -oma: tumor 肿瘤
  melanoma 黑色素瘤，fibroma 纤维瘤
- -scope: instrument for viewing 查看工具
  microscope 显微镜，endoscope 内窥镜，telescope 望远镜
- -nomy, nom-: ordered knowledge, law 知识，法则
  taxonomy 分类学，nomenclature 命名法
- -elle: small 小
  organelle 细胞器
- -phyte: plant 植物
  bryophyte 苔藓植物，epiphyte 附生植物，hydrophyte 水生植物

Common words in biological abstract

- Indicating evidence or suggestion 表示，说明，显示，揭示

  suggest, propose, imply, indicate, hint, recommend, demonstrate, show, reveal, exhibit, insinuate, infer, put forward, manifest, display, disclose, unveil, expose

- Clarifying or explaining 解释了，阐明了，描述了

  elucidate, clarify, explain, illuminate, depict, outline, detail, characterize, specify, define, delineate, interpret, decipher, elaborate

- Showing cause and effect 导致，引发，影响，塑造

  cause, lead to, result in, trigger, induce, outcome, consequence, affect, influence, impact, alter, modify, contribute to, play a part in, aid, assist, shape, give rise to, bring about

- Hindering or limiting 限制了，阻碍了

  hinder, impede, obstruct, hamper, inhibit, prevent, stop, prohibit, preclude, deter, limit, restrict, constrain

- Acknowledging or overlooking 承认（局限性），忽视

  acknowledge, recognize, admit, overlook, miss, ignore, neglect, disregard, omit

- Evaluating or assessing 评估，判断

  evaluate, assess, judge, appraise, measure, estimate, determine, scrutinize, investigate, examine, consider

- Summarizing or concluding 结论，总结，得到

  conclude, finish, end, summarize, deduce, derive, elicit, obtain

- Emphasizing 强调

  emphasize, highlight, stress, underscore, accentuate, spotlight, feature

- Comparing or contrasting 对比，相反

  compare, contrast, differentiate, distinguish, separate

[1] Neurons in the brain seldom act alone; they are highly interconnected and often fire together in a rhythmic or repetitive pattern. [2] One such pattern is the sharp-wave ripple, in which a large group of neurons fire with extreme synchrony, then a second large group of neurons does the same and so on, one after the other at a particular tempo. [3] These ripples occur in a brain area called the hippocampus, which is key to memory formation. The patterns are thought to facilitate communication with the neocortex, where long-term memories are later stored. [4] One clue to their function is that some of these ripples are accelerated re-runs of brain-activity patterns that occurred during past events. [5] For example, when an animal visits a particular spot in its cage, a specific group of neurons in the hippocampus fires in unison, creating a neural representation of that location. [6] Later, these same neurons might participate in sharp-wave ripples — as if they were rapidly replaying snippets of that experience.

[1] An essential prerequisite for evolution by natural selection is variation among individuals in traits that affect fitness. **[2]** The ability of a system to produce selectable variation, known as evolvability, thus greatly affects the rate of evolution. **[3]** The immune system belongs to the fastest evolving components in mammals, yet the sources of variation in immune traits remain largely unknown. **[4]** Here, we show that an important determinant of the immune system's evolvability is its organisation into interacting modules represented by different immune cell types. **[5]** By profiling immune cell variation in bone marrow of 54 genetically diverse mouse strains from the Collaborative Cross, we found that variation in immune cell frequencies is polygenic and that many associated genes are involved in homeostatic balance through cell-intrinsic functions of proliferation, migration and cell death.

[6] However, we also found genes associated with the frequency of a particular cell type, which are expressed in a different cell type, exerting their effect in what we term cyto-trans. **[7]** Vertebrate evolutionary record shows that genes associated in cyto-trans have faced weaker negative selection, thus increasing the robustness and hence evolvability of the immune system. This phenomenon is similarly observable in human blood. **[8]** Our findings suggest that interactions between different components of the immune system provide a phenotypic space where mutations can produce variation without much detriment, underscoring the role of modularity in the evolution of complex systems.

[1] Alterations of bases in DNA constitute a major source of genomic instability. It is believed that base alterations trigger base excision repair (BER), generating DNA repair intermediates interfering with DNA replication. [2] Here, we show that genomic uracil, a common type of base alteration, induces DNA replication stress (RS) without being processed by BER. [3] In the absence of uracil DNA glycosylase (UNG), genomic uracil accumulates to high levels, DNA replication forks slow down, and PrimPol-mediated repriming is enhanced, generating single-stranded gaps in nascent DNA. [4] ATR inhibition in UNG-deficient cells blocks the repair of uracil-induced gaps, increasing replication fork collapse and cell death. [5] Notably, a subset of cancer cells upregulates UNG2 to suppress genomic uracil and limit RS, and these cancer cells are hypersensitive to co-treatment with ATR inhibitors and drugs increasing genomic uracil. [6] These results reveal unprocessed genomic uracil as an unexpected source of RS and a targetable vulnerability of cancer cells.

[1] Threatened species are by definition species that are in need of assistance. In the absence of suitable conservation interventions, they are likely to disappear soon. **[2]** There is limited understanding of how and where conservation interventions are applied globally, or how well they work. **[3]** Here, using information from the International Union for Conservation of Nature Red List and other global databases, we find that for species at risk from three of the biggest drivers of biodiversity loss—habitat loss, overexploitation for international trade and invasive species—many appear to lack the appropriate types of conservation interventions.

[4] Indeed, although there has been substantial recent expansion of the protected area network, we still find that 91% of threatened species have insufficient representation of their habitats within protected areas. **[5]** Conservation interventions are not implemented uniformly across different taxa and regions and, even when present, have infrequently led to substantial improvements in the status of species. **[6]** For 58% of the world's threatened terrestrial species, we find conservation interventions to be notably insufficient or absent. **[7]** We cannot determine whether such species are truly neglected, or whether efforts to recover them are not included in major conservation databases. **[8]** If they are indeed neglected, the outlook for many of the world's threatened species is grim without more and better targeted action.