

- Prostate, 980-990  
 benign enlargement of, 982-983, 982b-983b, 983f, 984f  
 carcinoma of, 989b-990b  
 colloid carcinoma of, 990  
 inflammation of, 981-982  
 normal anatomy and histology of, 980-981, 981f  
 tumors of, 983-990, 985f, 986f, 987f, 988t
- Prostate-specific antigen (PSA), 988
- Prostatic hyperplasia, benign or nodular, 982-983, 983b, 983f
- Prostatic intraepithelial neoplasia (PIN), 985  
 high-grade, 986
- Prostatitis, 981-982, 982b  
 acute bacterial, 981  
 chronic  
 abacterial, 981  
 bacterial, 981  
 granulomatous, 981-982
- Prosthetic valves, complications of, 563, 563t
- Proteases, 676-677
- Protease-activated receptor (PAR), 117-118
- Protease-antiprotease imbalance, in emphysema, 676
- Proteasomes, 6, 13-14  
 degradation of, 13f
- Protective antigen, in anthrax, 366-367
- Proteins  
 concentrated from serum, 1180t  
 damage to, cell injury due to, 50  
 intracellular accumulation of, 63
- Protein aggregate myopathies (PAM), 1241t
- Protein aggregation, in Alzheimer disease, 1289f
- Protein-aggregation diseases, 63
- Protein C, 121
- Protein-calorie deficiencies, 40
- Protein-energy malnutrition (PEM), 433-435, 434b  
 in developed world, 434
- Protein kinase A regulatory subunit 1 (PRKAR1A) gene, in pituitary tumors, 1076t
- Protein kinase C (PKC), activation of, 1115-1116
- Protein-protein cross-linkages, 49
- Protein reabsorption droplets, in proximal renal tubules, 63, 63f
- Protein S, 121
- Protein tyrosine phosphatase-22 (PTPN22), 1086
- Protein tyrosine phosphatase-22 (PTPN22) gene, 1086, 1210  
 autoimmune diseases and, 216t  
 in autoimmunity, 215
- Proteinopathies, 63, 1252
- Proteinuria, asymptomatic, 898
- Proteoglycans, 22f  
 in immediate hypersensitivity, 203
- Proteolysis-inducing factor (PIF), 435
- Prothrombin gene mutation, and thrombosis, 124
- Prothrombin time (PT), 119, 656
- Proto-oncogenes, 283-290, 289b-290b, 316-317
- Protozoa, 390-395, 390t  
 sexually transmitted infections, 351t
- Protozoal diseases, of CNS, 1279-1280
- Proud flesh, 109-110
- PRSS1 gene, pancreatitis, 886, 886t
- P-selectin, in inflammation, 76, 76t
- Pseudo-aneurysm, 501
- Pseudo-gout, 1217, 1217f
- Pseudo-palisading, in glioblastoma, 1307b-1308b
- Pseudoangiomatous stromal hyperplasia, of breast, 1070
- Pseudoarthrosis, 1194
- Pseudocysts, pancreatic, 889-890, 890b, 890f
- Pseudoepitheliomatous hyperplasia, 370b-371b, 1158b
- Pseudohermaphroditism, 167
- Pseudohypertrophy, 1243
- Pseudohypoparathyroidism, 1105
- Pseudolaminar necrosis, 1264b
- Pseudomonas*, in pyogenic osteomyelitis, 1195  
*Pseudomonas aeruginosa*, 369  
*Pseudomonas* infection, 369-370, 369b-370b  
 Pseudomyxoma peritonei, 273, 1027, 1027f  
 Pseudophakic bullous keratopathy, 1326
- Psoriasis, 209t, 1165, 1165b-1166b, 1166f
- Psoriatic arthritis, 1213
- Pterygium, 1323
- Puerperal infections, pelvic inflammatory disease, 994
- Pulmonary atresia, congenital, 537
- Pulmonary congestion, 116
- Pulmonary edema, in heart failure  
 left-sided, 529-530  
 right-sided, 530
- Pulmonary embolism (PE), 127
- Pulmonary infarction, 697-699, 698b
- Pulmonary stenosis, congenital, 537
- Pulmonary venous connection, total anomalous, 535
- Pupil, 1320f
- Pupillary block, 1329
- Pure red cell aplasia, 655, 655b
- Purkinje network, 525
- Purpura(s), 121-122  
 Henoch-Schönlein, 657  
 thrombocytopenic  
 immune  
 acute, 659  
 chronic, 658-659  
 thrombotic, 659-660, 660t
- Pus, 73, 91
- Pustular psoriasis, 1165b-1166b
- Pustule, 1143t
- Pyelonephritis, 930-935, 930f, 935b, 1117b-1119b  
 acute, 931-933, 931b-932b, 932f  
 chronic, 933-935, 934b, 934f  
 due to ureteral obstruction, 960-961  
 xanthogranulomatous, 934b
- Pyloric stenosis, 751
- Pyogenic bacteria, 91
- Pyogenic granulomas, 516  
 of oral cavity, 728-729, 729f
- Pyogenic meningitis, 1272, 1273f
- Pyogenic osteomyelitis, 1195-1196
- Pyosalpinx, 995b, 995f
- Pyrin, in amyloidosis, 259-260
- Pyrogens, 99
- Pyrosequencing, 176
- Q**
- Q fever, 703t
- Quorum sensing, 349
- R**
- Rabies, 1277-1278, 1277b
- Race/ethnicity, and breast cancer, 1053
- "Rachitic rosary", 441b
- Radial scar, of breast, 1049, 1050f
- Radial sclerosing lesion, of breast, 1049, 1050f
- Radiation, 428  
 cancer risks from exposures to, 431-432  
 CNS effects of, 1305  
 ionizing  
 biologic effects of, main determinants of, 428-429, 429f, 430f, 430t  
 injury produced by, 428-432, 429b, 432b  
 units of, 428
- Radiation carcinogenesis, 324-325, 325b
- Radiation cystitis, 962
- Radiation exposure, and breast cancer, 1053
- Radiation pneumonitis, 692-693
- Radiation retinopathy, 1336-1337
- Radioallergosorbent test (RAST), 679
- Radon  
 as carcinogen, 278t, 432  
 in indoor air pollution, 409
- Ragged red fibers, 1245b, 1245f
- RANKL, 1182  
 in giant cell tumor, 1203
- Rapidly progressive glomerulonephritis (RPGN), 898, 912-913, 912t, 913b-914b, 913f
- RAS oncogene, 286
- Rathke cleft cyst, 1081
- Raynaud phenomenon, in systemic sclerosis, 229-230
- RB, in osteosarcoma, 1199
- RB tumor suppressor gene, 292-293, 293b, 293f
- Reactive arthritis, 207t, 1213
- Reactive lymphadenitis, 74-75
- Reactive nodules, of vocal cords, 739, 739f
- Reactive oxygen species (ROS)  
 in alcohol metabolism, 418  
 in cell injury, 45f, 47, 48f, 48t  
 in inflammation, 85  
 in leukocyte-mediated tissue injury, 82  
 in phagocytosis, 79-80  
 in toxicology, 406-407
- Real-time PCR, 176
- Recanalization, of thrombi, 126, 126f
- Receptors, defects in, 143-144
- Receptor cross-linking, 16
- Receptor-mediated and fluid-phase uptake, 9, 10f
- Receptor-mediated endocytosis, 9-10
- Receptor-mediated signaling, 17f
- Receptor tyrosine kinases (RTKs), 16-17  
 activity, 300-301
- Recombination activating genes (RAG), 190
- Red cedar dust, asthma due to, 688t
- Red cell aplasia, pure, 655
- Red cell count, adult reference range for, 631t
- Red cell distribution width, 630, 631t
- Red cell enzyme defects, hemolytic disease due to, 634-635, 634f, 635f
- Red cell indices, 629-630, 631t
- Red cell trauma, hemolytic anemia due to, 644, 644f
- "Red neurons", 1252b-1253b
- Reduction-oxidation reactions, 47
- Reed-Sternberg cells, 606-607, 607b-610b, 608f, 610f  
 in Hodgkin lymphoma, 255
- Reflux nephropathy, 934
- Regenerating myofibers, 1237-1238
- Regeneration, 100, 100f  
 cell and tissue, 101-102  
 liver, 102, 102f
- Regenerative medicine, 28-29
- Regulated and normal T-cell expressed and secreted (RANTES), 87