|  |  |  |  |
| --- | --- | --- | --- |
| **Sequence** | [**HUGO**](http://gutenberg.us/articles/Human_Genome_Organisation)**Symbol** | **Gene product** | **Notes** |
| Image result for rna**AAA** | [ABO](http://gutenberg.us/articles/ABO_(gene)) | [Glycosyltransferases](http://gutenberg.us/articles/Glycosyltransferase) | Decides your [blood type (ABO)](http://gutenberg.us/articles/ABO_blood_group_system) |
| Image result for rna**AAT** | [ALB](http://gutenberg.us/articles/Serum_albumin) | [Serum albumin](http://gutenberg.us/articles/Serum_albumin) | -- The most common protein in human [blood plasma](http://gutenberg.us/articles/Blood_plasma) |
| Image result for rna**AAG** | [BCL2](http://gutenberg.us/articles/Bcl-2) | Apoptosis regulator Bcl-2 / B-cell CLL/lymphoma 2 | Linked to several cancers. The prototype anti-[apoptotic](http://gutenberg.us/articles/Apoptosis) protein |
| Image result for rna**AAC** | [CCR5](http://gutenberg.us/articles/CCR5) | chemokine (C-C motif) receptor 5 | -- Has an important role in resistance to [infection](http://gutenberg.us/articles/Infection). |
| Image result for rna**ATA** | [CD4](http://gutenberg.us/articles/CD4) | CD4 antigen | A marker for [T helper cells](http://gutenberg.us/articles/T_helper_cells) |
| Image result for rna**ATG** | [CD8](http://gutenberg.us/articles/CD8) | CD8 antigen | A marker for [cytotoxic T cells](http://gutenberg.us/articles/Cytotoxic_T_cells) |
| Image result for rna**ATC** | [IL2](http://gutenberg.us/articles/Interleukin-2) | [Interleukin 2](http://gutenberg.us/articles/Interleukin_2) | Associated with various cancers |
| Image result for rna**ATT** | [IL10](http://gutenberg.us/articles/Interleukin_10) | Interleukin 10 | An anti-inflammatory [cytokine](http://gutenberg.us/articles/Cytokine) (part of the immune system) |
| Image result for rna**AGC** | [BRCA1](http://gutenberg.us/articles/BRCA1) | Breast cancer 1, early onset | Linked to [breast](http://gutenberg.us/articles/Breast_cancer) cancer |
| Image result for rna**AGG** | [BRCA2](http://gutenberg.us/articles/BRCA2) | Breast cancer 2, early onset | Linked to [b](http://gutenberg.us/articles/Breast_cancer)reast cancer |
| Image result for rna**AGT** | [CD28](http://gutenberg.us/articles/CD28) | CD28 antigen | A marker on T cells |
| Image result for rna**AGA** | [APC](http://gutenberg.us/articles/APC_(gene)) | [Adenomatous polyposis coli protein](http://gutenberg.us/articles/Adenomatous_polyposis_coli_protein) | Linked to disease in the large intestine |
| Image result for rna**ACA** | [ASPM](http://gutenberg.us/articles/ASPM_(gene)) | Abnormal spindle-like microcephaly-associated protein | [Microcephaly](http://gutenberg.us/articles/Microcephaly) – a neurodevelopmental disease leading to smaller head circumference |
| Image result for rna**ACC** | [BDNF](http://gutenberg.us/articles/BDNF) | [Brain-derived neurotrophic factor](http://gutenberg.us/articles/Brain-derived_neurotrophic_factor) | Can lead to stopping breathing during sleep. |
| Image result for rna**ACG** | CFTR | [Cystic fibrosis transmembrane conductance regulator](http://gutenberg.us/articles/Cystic_fibrosis_transmembrane_conductance_regulator) | [Cystic Fibrosis](http://gutenberg.us/articles/Cystic_Fibrosis) |
| Image result for rna**ACT** | [CREBBP](http://gutenberg.us/articles/CREB-binding_protein) | [CREB](http://gutenberg.us/articles/CREB) binding protein | [Rubinstein-Taybi syndrome](http://gutenberg.us/articles/Rubinstein-Taybi_syndrome) - short stature, moderate to severe learning difficulties, distinctive facial features |
| Image result for rna**GGG** | [DHFR](http://gutenberg.us/articles/DHFR) | Dihydrofolate reductase | [Folate deficiency](http://gutenberg.us/articles/Folate_deficiency) |
| Image result for rna**GGC** | [HFE](http://gutenberg.us/articles/HFE_gene) | Hereditary hemochromatosis protein precursor | [Haemochromatosis](http://gutenberg.us/articles/Haemochromatosis) – iron overload, too much iron accumulates in the body |
| Image result for rna**GGT** | [KRT5](http://gutenberg.us/articles/KRT5) | [Keratin](http://gutenberg.us/articles/Keratin) | [Epidermolysis bullosa](http://gutenberg.us/articles/Epidermolysis_bullosa) -mutations can cause skin blisters |
| Image result for rna**GGA** | [PGL2](http://gutenberg.us/articles/PGL2) | Paraganglioma or familial glomus tumors 2 | [Paraganglioma](http://gutenberg.us/articles/Paraganglioma) - tumours |
| Image result for rna**GCC** | [PHF8](http://gutenberg.us/articles/PHF8) | [PHD finger protein 8](http://gutenberg.us/articles/PHD_finger_protein_8) | [Siderius X-linked mental retardation syndrome](http://gutenberg.us/articles/Siderius_X-linked_mental_retardation_syndrome) |
| Image result for rna**GCT** | [RHO](http://gutenberg.us/articles/Rhodopsin) | [Rhodopsin](http://gutenberg.us/articles/Rhodopsin) | [Retinitis pigmentosa](http://gutenberg.us/articles/Retinitis_pigmentosa) – affects night vision, colour vison and can lead to blindness |
| Image result for rna**GCA** | [SDHB](http://gutenberg.us/articles/SDHB) | [Succinate](http://gutenberg.us/articles/Succinate) [dehydrogenase](http://gutenberg.us/articles/Dehydrogenase) complex subunit B | [Linked](http://gutenberg.us/articles/Paraganglioma) to tumour formation |
| Image result for rna**GCG** | [SRY](http://gutenberg.us/articles/SRY) | [Testis determining factor](http://gutenberg.us/articles/Testis_determining_factor) / Sex determining region Y | Associated with [Hermaphroditism](http://gutenberg.us/articles/Hermaphroditism) |
| Image result for rna**GTG** | [TSC1](http://gutenberg.us/articles/TSC1) | [Hamartin](http://gutenberg.us/articles/Hamartin) | [Tuberous sclerosis](http://gutenberg.us/articles/Tuberous_sclerosis) - seizures, intellectual disability, developmental delay, behavioural problems, skin abnormalities, lung and kidney disease. |
| Image result for rna**GTA** | [APP](http://gutenberg.us/articles/Amyloid_precursor_protein) | [Amyloid precursor protein](http://gutenberg.us/articles/Amyloid_precursor_protein) | [Alzheimer's Disease](http://gutenberg.us/articles/Alzheimer%27s_Disease) |
| Image result for rna**GTC** | [GAST](http://gutenberg.us/articles/Gastrin) | [Gastrin](http://gutenberg.us/articles/Gastrin) | [Zollinger-Ellison syndrome](http://gutenberg.us/articles/Zollinger-Ellison_syndrome) – forms tumours in the pancreas, large intestine or lymph nodes |
| Image result for rna**GTT** | [INS](http://gutenberg.us/articles/Insulin_gene) | [insulin](http://gutenberg.us/articles/Insulin) | Diabetes mellitus |
| Image result for rna**GAA** | [LCK](http://gutenberg.us/articles/Lck) | [Leukocyte](http://gutenberg.us/articles/Leukocyte)-specific protein tyrosine [kinase](http://gutenberg.us/articles/Kinase) | [Leukemia](http://gutenberg.us/articles/Leukemia) |
| Image result for rna**GAC** | [LEP](http://gutenberg.us/articles/Leptin) | [Leptin](http://gutenberg.us/articles/Leptin) | [Obesity](http://gutenberg.us/articles/Obesity) |
| Image result for rna**GAT** | [LIF](http://gutenberg.us/articles/Leukemia_inhibitory_factor) | [Leukemia inhibitory factor](http://gutenberg.us/articles/Leukemia_inhibitory_factor) | [Leukemia](http://gutenberg.us/articles/Leukemia) |
| Image result for rna**GAG** | [MCM6](http://gutenberg.us/articles/MCM6) | [Minichromosome maintenance deficient 6](http://gutenberg.us/articles/MCM6) | [Lactose intolerance](http://gutenberg.us/articles/Lactose_intolerance) |
| Image result for rna**CCC** | [MYH7](http://gutenberg.us/articles/MYH7) | [Myosin](http://gutenberg.us/articles/Myosin), heavy polypeptide 7, cardiac muscle, beta | Thickening and stiffening of heart muscle |
| Image result for rna**CCA** | [MYOD1](http://gutenberg.us/articles/MyoD) | Myogenic differentiation 1 | Cancer of the connective tissue |
| Image result for rna**CCT** | [NPPB](http://gutenberg.us/articles/NPPB) | [Brain Natriuretic Peptide](http://gutenberg.us/articles/Brain_Natriuretic_Peptide) | [Cardiovascular disease](http://gutenberg.us/articles/Cardiovascular_disease) |
| Image result for rna**CCG** | [OSM](http://gutenberg.us/articles/Oncostatin_M) | [Oncostatin M](http://gutenberg.us/articles/Oncostatin_M) | [Leukemia](http://gutenberg.us/articles/Leukemia) |
| Image result for rna**CAC** | [PKC](http://gutenberg.us/articles/Protein_kinase_C) | Paroxysmal kinesogenic choreoathetosis | [Choreoathetosis](http://gutenberg.us/articles/Choreoathetosis) – involuntary movements |
| Image result for rna**CAG** | [PIP](http://gutenberg.us/articles/Prolactin-induced_protein) | [Prolactin-induced protein](http://gutenberg.us/articles/Prolactin-induced_protein) | [Fibrocystic breast disease](http://gutenberg.us/articles/Fibrocystic_breast_disease) |
| Image result for rna**CAT** | [SLC18A2](http://gutenberg.us/articles/VMAT2) | [Vesicular Monoamine Transporter](http://gutenberg.us/articles/Vesicular_Monoamine_Transporter) | Drug induced [mood disorders](http://gutenberg.us/articles/Mood_disorders) |
| Image result for rna**CAA** | SHH | Sonic Hedgehog | Development of neural Stem cells |
| Image result for rna**CGA** | FOXP2 | Forkhead box protein P2 | Associated with speech |
| Image result for rna**CGT** | OT | Oxytocin | A chemical reward for physical social bonding. (Cuddles!) |
| Image result for rna**CGG** | AVPR1a | Vasopressin V1a receptor | Sometimes called the Altruism gene – may reward giving. |
| Image result for rna**CGC** | OPN1LW | Long-wave-sensitive opsin 1 | Defects linked to colour blindness |
| Image result for rna**CTT** | RB1 | Retinoblastoma-associated protein | A tumour suppressor gene, involved in killing of cancerous cells |
| Image result for rna**CTA** | FITM2 | Fat storage-inducing transmembrane protein 2 | Involved with fat storage |
| Image result for rna**CTC** | HAR1F | Highly Accelerated Region 1A (Non-Protein Coding) | Associated with brain development. |
| Image result for rna**CTG** | TP53 | Cellular tumor antigen p53 | Tumour suppressor protein |
| Image result for rna**TTT** | HTT | Huntingtin | Huntingtins disease |
| Image result for rna**TTA** | VEGFA | Vascular Endothelial Growth Factor A | Has many roles involved with blood vessel development, endothelial cell growth, cell migration, and apoptosis. |
| Image result for rna**TTC** | IL-6 | Interleukin 6 | Part of the immune response in fighting infection |
| Image result for rna**TTG** | TNF | Tumour Necrosis Factor | Involved in cell death (apoptosis) |
| Image result for rna**TAT** | UBC | Polyubiquitin C | Involved with DNA repair, immunity and stress responses. |
| Image result for rna**TAA** | Wilder | Wonka | Associated with the enjoyment of chocolate |
| Image result for rna**TAG** | FBN-1 | Fibrillin 1 | Important in the extra cellular matrix. Defects can lead to Marfan’s Syndrome. |
| Image result for rna**TAC** | ATP50 | ATP Synthase | Makes ATP, the bodies energy transfer molecule |
| Image result for rna**TCC** | HBB | Haemoglobin subunit B | Causes sickle cell anaemia |
| Image result for rna**TCG** | NOTCH1 | Notch 1 | Intercellular signalling. Errors can lead to heart disease and various cancers. |
| Image result for rna**TCA** | DAXX | Death Domain Associated Protein | Regulates cellular apoptosis (cell death!) |
| Image result for rna**TCT** | COX | Cyclooxygenase | Produces prostaglandins, involved in transmitting pain signals. Target for aspirin. |
| Image result for rna**TGG** | GSS | Glutathione Synthetase | Defect results in Glutathione deficiency. Glutathione is important for protection of cells from oxidative damage and membrane transport. |
| Image result for rna**TGC** | TTN | Titin | A protein found in striated muscle. May also be a structural protein for chromosomes |
| Image result for rna**TGA** | ZEB1 | Zinc Finger Transcription factor | Transcriptional repression of IL2 |
| Image result for rna**TGT** | FTO | Fat Mass and Obesity associated protein | Association with body mass index, obesity risk, and type 2 diabetes. |