

## R

**Ras oncogene:** The Ras protein family are a class of protein called small GTPase, and have important roles in cell signalling. The ras gene is the most common oncogene involved in human cancer - mutations that permanently activate ras are found in 20-25% of all human tumours and up to 90% in certain types of cancer (e.g. pancreatic cancer).

**Receptor:** A small, discrete protein in the cell membrane or within the cell with which specific molecules interact to initiate a change in the working of a cell.

**Recombinant DNA:** DNA molecules that have been created by combining DNA more than one source.

**Reference nutrient intake (RNI):** An amount of the nutrient that is enough, or more than enough, for most (usually at least 97%) of people in a group. If the average intake of a group is at the RNI, then the risk of deficiency in the group is very small.

**Regulatory gene:** A gene which controls the protein-synthesising activity of other genes.

**Relative potency factor (RPF):** The toxic potency of a substance expressed relative to that of an index chemical to enable cumulative risk assessment ( $qv$ ). The RPF is similar to the TEF ( $qv$ ) but is used when the information on common MIEs, toxicokinetics and outcomes of the members of an assessment group is less reliable than that required for application of the TEF approach.

**Relative risk:** A measure of the association between exposure and outcome. The rate of disease in the exposed population divided by the rate of disease among the unexposed population in a cohort study or a population-based case control study. A relative risk of 2 means that the exposed group has twice the disease risk compared to the unexposed group.

**Renal:** Relating to the kidney.

**Reporter gene:** A gene that encodes an easily assayed product that is coupled to the upstream sequence of another gene and transfected ( $qv$ ) into cells. The

reporter gene can then be used to see which factors activate response elements in the upstream region of the gene of interest.

**Risk:** Possibility that a harmful event (death, injury or loss) arising from exposure to a chemical or physical agent may occur under specific conditions.

**Risk assessment:** process of evaluating a potential hazard, likelihood of suffering, or any adverse effects from certain human activities. Comprised of the four aspects, hazard identification, hazard characterisation, exposure assessment and risk characterisation. Can be carried out retrospectively or prospectively.

**Risk management:** process designed to identify, contain, reduce, or eliminate the potential for harm to the human population; usually concerned with the delivery system and site rather than performance.

**RNA (ribonucleic acid):** a molecule similar to DNA (qv), which helps in the process of decoding the genetic information carried by DNA.