8-Oxo-riboguanosine (8-Oxo-G) is classified as an oxidized ribonucleotide, and is primarily used in studies of oxidative RNA damage and associated RNA repair and RNA turnover mechanisms within the cell. In the cell, 8-Oxo-G RNA lesions are formed by reaction with reactive oxygen species (ROS) generated either via normal oxidative metabolic processes, UV ionizing radiation, or exposure to oxidative agents such as hydrogen peroxide, ethanol, ammonia and 2-nitropropane (an industrial solvent) (1,2). Oxidative RNA damage can lead to defects in protein synthesis, for example, decreased rates of protein synthesis and production of aggregated or truncated peptides (3,4), with important implications in aging and neurodegenerative disorders and atherosclerosis (5,6). Current understanding of cellular repair and turnover mechanisms for RNA 8-Oxo-G lesions is reviewed in reference 1.

References