

Tumor Necrosis Factor- α soluble receptors (TNF-R1 and TNF-R2): Two types of soluble TNF- α receptors have been identified in human serum and urine. Elevated levels of the receptors (TNF-R1 and TNF-R2) are associated with a number of disease states (Fernandez-Real J-M, Ricart W (1999) Insulin resistance and inflammation in an evolutionary perspective: the contribution of cytokine genotype/phenotype to thriftiness. *Diabetologia* 42:1367-1374). TNF-R1 and TNF-R2 are measured using ultra-sensitive ELISA assays (R&D Systems, Minneapolis, MN). The lower detection level is 1-3 pg/ml and the detection range is 7.8-500 pg/mL. Serum is the preferred sample type, but plasma samples may be used. A monoclonal antibody specific for either TNF-R1 or TNF-R2 is coated on the assay plate. Polyclonal anti-TNF-R1 or anti-TNF-R2 antibodies are used as the sandwich assays. The amount of receptor is determined by a colorimetric reaction. Using these assays, we have determined a routine CV in the lab of 5% for the TNF-R1 assay and 9% for the TNF-R2 assay. The minimum sample volume required per assay is 60 μ L serum. The normal range for TNF-R1 in serum is 479 to 1966 pg/mL and for TNF-R2 in serum is 1003 to 3170 pg/mL. We have performed these assays in approximately 500 samples to date.