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**TEST: HLA DQ ALPHA (DQ $\alpha$ -1)**

**PRINCIPLE:**

The Human Leukocyte Antigen Class II (HLA D) genes are located on chromosome 6. The HLA D genes are organized into three regions: HLA DR, DQ and DP each of which encodes an alpha and beta glycopeptide. The complete DNA sequence of the HLA DQ $\alpha$  alleles is known.

The DQ $\alpha$  alleles are detected Next Generation Sequencing (NGS) technologies. With NGS the targeted nucleotide sequence of each loci is determined and then matched to HLA database (IMGT) to produce ultra-high resolution HLA typing. Therefore, typing with NGS substantially decreases ambiguity rates when compared to other current methods (SSO & SSP).

**SPECIMEN REQUIREMENTS:**

**10mL whole blood collected in lavender top EDTA tubes (two 5ml tubes).** Specimen should be delivered to the laboratory within 72 hours at room temperature. Peripheral blood specimens that are clotted, have not been collected in EDTA, or frozen are not acceptable.

**METHOD:**

Next Generation Sequencing

**REFERENCES:**

1. Terasaki, P.I., Bernoco, F., Park, M.S., Ozturk, G., and Iwaki, Y. Microdroplet testing for HLA-A, -B, -C and -D antigens. American Journal of Clinical Pathology 69:103-120, 1978.
2. Bodmer J., Marsh S., Albert E., Bodmer W., Bontrop R., Charron D., Dupont B., Erlich H., Mach B., Mayr W., Parham P., Sasazuki T., Schreuder G., Strominger J., Svejgaard A. and Terasaki P. Nomenclature for factors of the HLA system, 1995. Human Immunology 43:149-164, 1995.
3. Puregene DNA Purification System, Genomic DNA Purification kit instruction by Gentra System of Minneapolis, MN.

**Normal Range: See lab report**

**Turnaround Time: 10 business days**