

# Description of Longitudinal Measurement of Donor Fraction of Cell-Free DNA Following Rejection Treatment and Correlation to Clinical Outcomes

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## Disclosures

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## Abstract

**Purpose:** Donor Fraction (DF) of cell-free DNA in transplant recipients has been correlated with rejection and allograft injury. Treatment of rejection results in a decrease in DF levels. Little is known about the clinical significance of rebound of, or increase in, DF following initial decrease associated with rejection treatment.

**Methods:** A cohort of 88 heart transplant recipients were prospectively followed. DF was quantified using a targeted assay, myTAIheart test (TAI Diagnostics, Milwaukee Wisconsin). 7 subjects were treated for rejection and had longitudinal samples available for analysis with serial DF levels before and treatment. Clinical end points were death, need for mechanical circulatory support (MCS), and recurrent or progressive rejection.

**Results:** Two patients did not demonstrate rebound in DF following treatment and did not experience near-term adverse events. Mean pre-treatment DF was 2.67% and post-treatment was 0.15%. Of the five patients who demonstrated rebound in DF, two required MCS within 19 days following DF rebound and subsequently died. One patient with DF rebound developed progression of previously present cardiac allograft vasculopathy (CAV) within 42 days following rebound. The two remaining subjects who demonstrated DF rebound did not experience clinical adverse events.

**Conclusion:** We found that initial treatment of rejection lowers DF in general. Rebound of DF following treatment of rejection appears to be correlated with near-term adverse clinical events. Larger studies are needed to define the precise prognostic significance of this observed treatment effect.