

## TRANSPLANTATION

## Investigating the role of BAFF in kidney graft dysfunction

Researchers in France report that high levels of soluble B-cell activating factor (BAFF) and high levels of its receptor BAFF-R are associated with the development of donor-specific antibodies (DSAs) and with an increased risk of kidney graft dysfunction in renal transplants, respectively.

Previous studies have shown that BAFF is likely to have a role in the process of post-transplantation organ rejection, probably by acting on the process of B-cell maturation. Increased BAFF production has also been shown to be associated with the development of autoimmune disease.

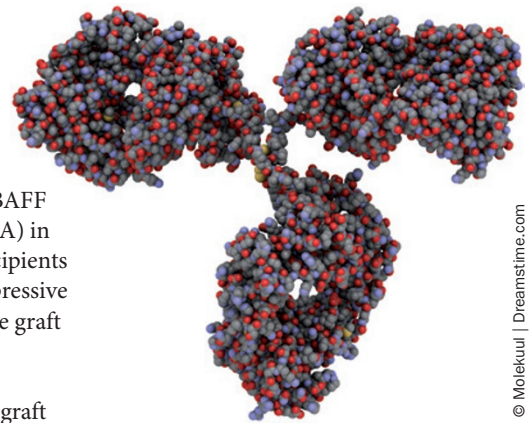
In the latest study, researchers set out to determine whether a correlation exists between BAFF levels and the development of graft dysfunction or the production of donor-specific or anti-HLA antibodies in renal transplant recipients with stable renal function at baseline.

Thibault-Espitia *et al.* measured levels of BAFF mRNA transcripts, soluble BAFF

protein, and transcripts coding for BAFF receptors (BAFF-R, TACI and BCMA) in the blood of 143 renal transplant recipients who were on standard immunosuppressive therapy and had demonstrated stable graft function for at least 5 years.

During the follow-up period of 6–8 years after study inclusion, renal graft dysfunction occurred in 21 patients. The researchers found that the risk of renal dysfunction was 3.6-fold higher in patients with a BAFF-R expression level of >0.10 than in those with a lower level. In addition, patients with decreased levels of BAFF transcripts and patients with increased levels of soluble BAFF were shown to have a fourfold and a nearly fivefold increased risk of developing DSAs, respectively.

“Our results are novel as they enable us, for the first time, to predict deterioration of renal function—that was stable at the time of the initial measurements—over time,” says corresponding author Sophie Brouard. “The association of a high



soluble BAFF level with a higher risk of *de novo* appearance of DSAs and a high BAFF-R level with a higher risk of renal dysfunction suggests that BAFF pathway modulation may be a risk factor for renal dysfunction, a finding that may enable pathology to be detected earlier, before the onset of clinical symptoms.”

Rebecca Kelsey

**Original article** Thibault-Espitia, A. *et al.* BAFF and BAFF-R levels are associated with risk of long-term kidney graft dysfunction and development of donor-specific antibodies. *Am. J. Transplant.* doi:10.1111/j.1600-6143.2012.04194