

Tables S1. Means and 95% confidence intervals for eGFR by treatment group and months on study (0-3 years) using unadjusted values. 163 subjects with 3771 eGFR measurements.

| Month   | Q1: Monthly intravenous infusions of Belatacept |             |              |              | Q2: Every 2-month intravenous infusions of Belatacept |             |              |              |
|---------|---|-------------|--------------|--------------|---|-------------|--------------|--------------|
|         | N   | Mean eGFR   | 95% Lower CI | 95% Upper CI | N   | Mean eGFR   | 95% Lower CI | 95% Upper CI |
| 0       | 82  | 72.5        | 68.7         | 76.3         | 81  | 69.2        | 65.7         | 72.8         |
| 1       | 77  | 72.7        | 69.0         | 76.5         | 79  | 69.1        | 65.3         | 72.9         |
| 2       | 79  | 71.9        | 67.9         | 75.9         | 79  | 70.8        | 66.9         | 74.7         |
| 3       | 77  | 71.4        | 67.3         | 75.4         | 71  | 70.8        | 66.8         | 74.8         |
| 4       | 77  | 73.2        | 69.0         | 77.3         | 78  | 71.1        | 67.2         | 75.0         |
| 5       | 74  | 73.2        | 69.1         | 77.2         | 75  | 70.4        | 66.6         | 74.2         |
| 6       | 78  | 73.5        | 69.4         | 77.5         | 80  | 70.2        | 66.2         | 74.2         |
| 7       | 73  | 72.1        | 67.7         | 76.4         | 77  | 71.6        | 67.7         | 75.6         |
| 8       | 74  | 72.1        | 67.9         | 76.2         | 80  | 70.6        | 66.4         | 74.8         |
| 9       | 74  | 72.7        | 68.1         | 77.2         | 74  | 70.7        | 66.7         | 74.6         |
| 10      | 72  | 73.5        | 68.9         | 78.0         | 79  | 69.7        | 65.7         | 73.7         |
| 11      | 69  | 74.6        | 70.4         | 78.9         | 71  | 68.3        | 64.2         | 72.3         |
| 12      | 76  | 72.8        | 68.7         | 76.9         | 80  | 69.2        | 65.4         | 73.0         |
| 13-15   | 71  | 71.4        | 67.1         | 75.6         | 77  | 68.8        | 64.8         | 72.9         |
| 16-18   | 63  | 71.3        | 66.8         | 75.8         | 78  | 70.7        | 66.4         | 75.0         |
| 19-21   | 70  | 73.2        | 68.8         | 77.6         | 73  | 70.2        | 66.2         | 74.3         |
| 22-24   | 71  | 73.5        | 69.2         | 77.8         | 75  | 69.2        | 64.8         | 73.5         |
| 25-27   | 70  | 74.3        | 69.8         | 78.7         | 70  | 69.6        | 65.0         | 74.3         |
| 28-30   | 62  | 73.4        | 69.2         | 77.7         | 74  | 68.5        | 63.8         | 73.2         |
| 31-33   | 64  | 73.8        | 69.5         | 78.1         | 75  | 68.4        | 63.6         | 73.2         |
| 34-36   | 68  | 74.9        | 70.2         | 79.5         | 70  | 69.8        | 65.1         | 74.4         |
|         |   |             |              |              |   |             |              |              |
| Overall | 82  | <b>72.9</b> | 69.1         | 76.8         | 81  | <b>69.9</b> | 66.2         | 73.5         |

Time-averaged eGFR mean by treatment group and Mean Difference

| Group | N  | Mean eGFR | 95% Lower CI | 95% Upper CI |
|-------|----|-----------|--------------|--------------|
| Q1m   | 82 | 72.9      | 69.1         | 76.8         |
| Q2m   | 81 | 69.9      | 66.2         | 73.5         |

|                 |  |     |      |     |
|-----------------|--|-----|------|-----|
| Mean Difference |  | 3.0 | -2.3 | 8.4 |
|-----------------|--|-----|------|-----|

Tables S2. Baseline-adjusted means and 95% confidence intervals for eGFR by treatment group and months on study (0-3 years). N=163 with 2954 GFR measurements.

| Month        | Q1: Monthly intravenous infusions of Belatacept |             |              | Q2: Every 2-month intravenous infusions of Belatacept |           |             |              |              |
|--------------|---|-------------|--------------|---|-----------|-------------|--------------|--------------|
|              | N   | Mean eGFR   | 95% Lower CI | 95% Upper CI  | N         | Mean eGFR   | 95% Lower CI | 95% Upper CI |
| 1            | 77  | 71.7        | 69.8         | 73.5  | 79        | 70.3        | 68.4         | 72.3         |
| 2            | 79  | 70.8        | 69.0         | 72.6  | 79        | 72.2        | 70.1         | 74.4         |
| 3            | 77  | 71.0        | 68.9         | 73.2  | 71        | 71.9        | 69.9         | 73.8         |
| 4            | 77  | 72.6        | 70.4         | 74.9  | 78        | 72.2        | 69.8         | 74.5         |
| 5            | 74  | 72.6        | 70.2         | 75.0  | 75        | 71.9        | 69.8         | 74.0         |
| 6            | 78  | 72.3        | 70.1         | 74.6  | 80        | 71.3        | 69.2         | 73.4         |
| 7            | 73  | 70.5        | 67.9         | 73.1  | 77        | 73.0        | 70.7         | 75.3         |
| 8            | 74  | 70.3        | 68.1         | 72.6  | 80        | 71.8        | 69.0         | 74.7         |
| 9            | 74  | 71.7        | 69.3         | 74.0  | 74        | 72.3        | 70.2         | 74.4         |
| 10           | 72  | 72.5        | 69.9         | 75.2  | 79        | 71.7        | 69.4         | 74.0         |
| 11           | 69  | 73.5        | 71.2         | 75.8  | 71        | 70.3        | 67.8         | 72.9         |
| 12           | 76  | 71.5        | 69.2         | 73.7  | 80        | 71.3        | 68.9         | 73.6         |
| 13-15        | 71  | 69.8        | 67.3         | 72.4  | 77        | 70.3        | 67.7         | 72.9         |
| 16-18        | 63  | 70.1        | 67.1         | 73.0  | 78        | 72.4        | 69.8         | 75.1         |
| 19-21        | 70  | 71.9        | 68.8         | 74.9  | 73        | 72.0        | 69.2         | 74.8         |
| 22-24        | 71  | 72.4        | 69.7         | 75.1  | 75        | 71.2        | 67.8         | 74.6         |
| 25-27        | 70  | 72.6        | 69.9         | 75.3  | 70        | 71.7        | 67.6         | 75.8         |
| 28-30        | 62  | 72.1        | 69.3         | 74.9  | 74        | 70.7        | 67.2         | 74.1         |
| 31-33        | 64  | 71.7        | 68.8         | 74.5  | 75        | 70.3        | 66.5         | 74.1         |
| <b>34-36</b> | <b>68</b>                                       | <b>72.9</b> | <b>69.9</b>  | <b>76.0</b>   | <b>70</b> | <b>71.6</b> | <b>68.2</b>  | <b>75.0</b>  |
| Overall      | 82  | 71.7        | 70.0         | 73.5  | 81        | 71.5        | 69.5         | 73.5         |

Baseline-adjusted Time-averaged eGFR means by treatment group

| Treatment | N  | Mean eGFR | 95% Lower CI | 95% Upper CI |
|-----------|----|-----------|--------------|--------------|
| Q1m       | 82 | 71.7      | 70.0         | 73.5         |
| Q2m       | 81 | 71.5      | 69.5         | 73.5         |

|  |  |     |      |     |
|--|--|-----|------|-----|
| <b>Mean Treatment<br/>Difference<br/>(Q1m-Q2m)</b> |  | 0.2 | -2.5 | 2.9 |
|--|--|-----|------|-----|

P (time)= 0.09, P(group)=0.88, P(interaction)=0.16, and P (baseline GFR)= <.0001

Tables S3. Sensitivity Analysis 1. Baseline-adjusted means and 95% confidence intervals for eGFR by treatment group and months on study (0-3 years) for patients conditional of patient and graft survival. N=153 survivors without graft failure (2814 GFR measurements).

| Month   | Q1: Monthly intravenous infusions of Belatacept |           |              |              | Q2: Every 2-month intravenous infusions of Belatacept |           |              |              |
|---------|---|-----------|--------------|--------------|---|-----------|--------------|--------------|
|         | N   | Mean eGFR | 95% Lower CI | 95% Upper CI | N   | Mean eGFR | 95% Lower CI | 95% Upper CI |
| 1       | 71  | 71.6      | 69.7         | 73.5         | 75  | 71.0      | 69.1         | 72.9         |
| 2       | 73  | 70.9      | 69.0         | 72.7         | 75  | 72.7      | 70.6         | 74.8         |
| 3       | 71  | 70.5      | 68.5         | 72.6         | 67  | 72.3      | 70.3         | 74.2         |
| 4       | 71  | 72.6      | 70.5         | 74.7         | 74  | 72.7      | 70.4         | 74.9         |
| 5       | 69  | 72.0      | 69.6         | 74.3         | 71  | 72.0      | 69.9         | 74.1         |
| 6       | 74  | 72.9      | 70.8         | 75.1         | 76  | 71.9      | 70.0         | 73.9         |
| 7       | 69  | 72.0      | 69.9         | 74.2         | 73  | 73.1      | 70.8         | 75.3         |
| 8       | 70  | 71.8      | 69.9         | 73.6         | 76  | 72.7      | 70.6         | 74.9         |
| 9       | 71  | 72.7      | 70.5         | 74.8         | 70  | 72.3      | 70.5         | 74.0         |
| 10      | 70  | 73.3      | 71.1         | 75.6         | 75  | 72.5      | 70.4         | 74.5         |
| 11      | 66  | 74.4      | 72.6         | 76.3         | 68  | 71.1      | 69.1         | 73.1         |
| 12      | 73  | 72.5      | 70.5         | 74.5         | 76  | 71.9      | 70.1         | 73.7         |
| 13-15   | 67  | 71.5      | 69.7         | 73.4         | 73  | 71.6      | 69.4         | 73.8         |
| 16-18   | 61  | 70.9      | 68.3         | 73.5         | 74  | 73.4      | 71.4         | 75.4         |
| 19-21   | 67  | 72.7      | 70.2         | 75.1         | 69  | 72.7      | 70.5         | 74.9         |
| 22-24   | 68  | 73.7      | 71.7         | 75.7         | 71  | 72.6      | 70.4         | 74.8         |
| 25-27   | 69  | 73.6      | 71.0         | 76.2         | 66  | 73.8      | 71.3         | 76.3         |
| 28-30   | 61  | 73.3      | 70.6         | 76.0         | 71  | 72.6      | 70.2         | 75.0         |
| 31-33   | 63  | 73.3      | 70.7         | 76.0         | 73  | 72.5      | 69.9         | 75.0         |
| 34-36   | 68  | 74.4      | 71.6         | 77.1         | 69  | 72.9      | 70.3         | 75.5         |
| Overall | 76  | 72.5      | 71.0         | 74.0         | 77  | 72.4      | 70.9         | 73.9         |

Time-averaged eGFR baseline-adjusted means by treatment group

| Group | N  | Mean eGFR | 95% Lower CI | 95% Upper CI |
|-------|----|-----------|--------------|--------------|
| Q1m   | 76 | 72.5      | 71.0         | 74.0         |
| Q2m   | 77 | 72.4      | 70.9         | 73.9         |

|  |  |     |      |     |
|--|--|-----|------|-----|
| <b>Mean Treatment<br/>Difference<br/>(Q1m-Q2m)</b> |  | 0.1 | -2.0 | 2.2 |
|--|--|-----|------|-----|

Tables S4. Sensitivity analysis 2. Baseline-adjusted means and 95% confidence intervals for eGFR by treatment group and months on study (0-3 years). eGFR imputed as zero after graft loss or death.

| Month   | Q1m: Monthly intravenous infusions of Belatacept |           |              | Q2m: Every 2-month intravenous infusions of Belatacept |    |           |              |              |
|---------|--|-----------|--------------|--|----|-----------|--------------|--------------|
|         | N  | Mean eGFR | 95% Lower CI | 95% Upper CI   | N  | Mean eGFR | 95% Lower CI | 95% Upper CI |
| 1       | 77   | 71.4      | 69.4         | 73.4   | 79 | 70.4      | 68.3         | 72.5         |
| 2       | 79   | 70.9      | 69.1         | 72.8   | 79 | 72.3      | 70.0         | 74.6         |
| 3       | 77   | 70.7      | 68.5         | 72.9   | 71 | 72.2      | 70.1         | 74.2         |
| 4       | 77   | 72.7      | 70.3         | 75.0   | 78 | 72.0      | 69.7         | 74.4         |
| 5       | 75   | 72.1      | 69.1         | 75.0   | 75 | 71.8      | 69.7         | 73.9         |
| 6       | 80   | 71.2      | 68.1         | 74.3   | 80 | 72.1      | 69.5         | 74.6         |
| 7       | 75   | 69.7      | 66.4         | 73.1   | 77 | 73.3      | 70.6         | 76.1         |
| 8       | 76   | 69.3      | 65.6         | 73.0   | 80 | 71.2      | 68.4         | 74.1         |
| 9       | 77   | 70.3      | 66.5         | 74.2   | 74 | 71.7      | 69.5         | 73.9         |
| 10      | 76   | 70.1      | 66.4         | 73.9   | 79 | 71.1      | 68.5         | 73.8         |
| 11      | 72   | 71.9      | 68.6         | 75.2   | 72 | 69.0      | 65.3         | 72.8         |
| 12      | 79   | 69.4      | 66.1         | 72.6   | 80 | 70.6      | 68.2         | 73.0         |
| 13-15   | 73   | 68.5      | 65.5         | 71.4   | 77 | 71.3      | 68.5         | 74.1         |
| 16-18   | 67   | 66.7      | 62.5         | 70.9   | 78 | 72.9      | 70.2         | 75.6         |
| 19-21   | 73   | 68.4      | 63.9         | 72.8   | 73 | 72.3      | 69.4         | 75.1         |
| 22-24   | 74   | 69.4      | 65.6         | 73.2   | 75 | 71.2      | 68.4         | 74.1         |
| 25-27   | 75   | 68.1      | 63.1         | 73.1   | 70 | 72.0      | 68.5         | 75.5         |
| 28-30   | 67   | 68.4      | 63.8         | 73.1   | 75 | 68.4      | 64.1         | 72.6         |
| 31-33   | 69   | 68.3      | 63.3         | 73.3   | 77 | 68.0      | 63.6         | 72.3         |
| 34-36   | 74   | 68.5      | 63.7         | 73.2   | 73 | 68.7      | 64.3         | 73.1         |
|         |  |           |              |  |    |           |              |              |
| Overall | 82   | 69.8      | 67.2         | 72.4   | 81 | 71.1      | 69.1         | 73.1         |

Time-averaged eGFR baseline-adjusted means by treatment group

| Group                                      | N  | Mean eGFR | 95% Lower CI | 95% Upper CI |
|--|----|-----------|--------------|--------------|
| Q1m  | 82 | 69.8      | 67.2         | 72.4         |
| Q2m  | 81 | 71.1      | 69.1         | 73.1         |
| <b>Mean Treatment Difference (Q1m-Q2m)</b> |    | -1.3      | -4.6         | 2.0          |



Table S5. Cumulative survival rates by cohort at the 1, 2, and 3 year time points.

| Time Point                                  | 1 year            | 2 year            | 3 year            |
|---|-------------------|-------------------|-------------------|
| <b>Rejection-Free Survival</b>              |                   |                   |                   |
| Q1  | 100%[100, 100]    | 98.7%[96.2, 100]  | 98.7%[96.2, 100]  |
| Q2  | 94.9%[90.2, 99.9] | 93.7%[88.5, 99.2] | 92.4%[86.7, 98.4] |
| <b>DSA-Free Survival</b>                    |                   |                   |                   |
| Q1  | 100%[100, 100]    | 98.7%[96.2, 100]  | 98.7%[96.2, 100]  |
| Q2  | 96.2%[92.1, 100]  |                   |                   |
| <b>Survival without Immune</b>              |                   |                   |                   |
| <b>Event</b>                                | 98.7%[96.2, 100]  | 94.9%[90.2, 99.9] | 9                 |
| Q1  | 93.7%[88.5, 99.2] |                   | 89.9%[83.4, 96.8] |
| Q2  |                   | 92.4%[86.7, 98.4] | 97.4%[93.9, 100]  |
| <b>Survival without Death or Graft Loss</b> |                   |                   |                   |
| Q1  |                   | 97.6%[94.3, 100]  | 95.1%[90.6, 99.9] |
| Q2  |                   | 100%[100, 100]    | 100%[100, 100]    |

Table S6. Follow-up through years 2 and 3 of patients who experienced immunologic events during the first year of the study.

| <b>SUBJECT</b> | <b>TIME</b> | <b>GROUP</b> | <b>PATHOLOGY</b>                    | <b>DSA</b> | <b>SPECIFICITY</b> | <b>ACTION/COMMENT</b>   | <b>FOLLOWUP (M)</b>                            |
|----------------|-------------|--------------|-------------------------------------|------------|--------------------|---|--|
| <b>009</b>     | 6,<br>10    | Q1M          | Borderline x<br>2                   | No DSA     |                    | Oral steroid pulse x 2  | Died of unknown causes at month 24             |
| <b>078</b>     | 6           | Q2M          | 1A ACR                              | No DSA     |                    | IV steroids.<br>Converted to q1m.   | Stable renal function                          |
| <b>098</b>     | 8,<br>15    | Q2M          | 1B<br>ACR/AMR, IVIG/plasmapheresis. | DQ (3600)  |                    | IV steroids, thymoglobulin,<br>progression to graft borderline  | Continued NC, and<br>Converted to q1m. failure |
| <b>130</b>     | 4           | Q2M          | 1A ACR                              | No DSA     |                    | Converted to q1m  | No further events                              |
| <b>135</b>     | 4,<br>13    | Q2M          | 1B ACR,<br>AMR,<br>borderline       | DQ (2635)  |                    | Thymoglobulin,<br>plasmapheresis/IVIG.<br>Converted to q1m. Received<br>oral steroid pulse for<br>borderline rejection. | Stable renal function                          |
| <b>151</b>     | 6           | Q2M          | Bland biopsy                        | DQ (10633) |                    | Converted to q1m  | No further events                              |

Abbreviations: NC = noncompliance, eGFR = estimated glomerular filtration rate, Q1M = every month dosing, Q2M = every 2-month dosing of belatacept, ACR = acute cellular rejection, AMR = antibody mediated rejection, MMF = mycophenolate mofetil.

Figure S1. Cumulative survival from any adverse event (DSA, rejection, death, or graft loss).

