

TNF Receptor 1

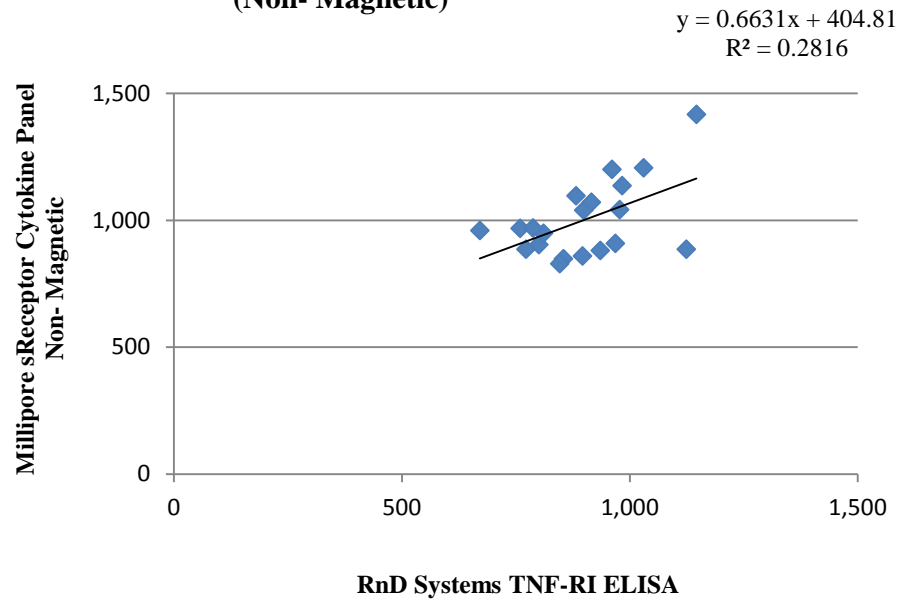
| Units: | pg/mL | pg/mL | pg/mL |
|---|--------------------------|--|--|
| Assay Name | RnD Systems TNF-RI ELISA | Millipore Soluble Receptor Cytokine Panel | Millipore Magnetic Soluble Receptor Cytokine Panel |
| Catalog Number | DRT100 | HSCR-32K | HSCRMAG-32K |
| Other Analytes On Multiplex | N/A | sCD30, sEGFR, sgp130, sIL-1RI, sIL-1RII, sIL-2Ra, sIL-4R, sIL-6R, sRAGE, sTNF-RII, sVEGF-RI, sVEGF-RII, sVEGF-RIII | sCD30, sEGFR, sgp130, sIL-1RI, sIL-1RII, sIL-2Ra, sIL-4R, sIL-6R, sRAGE, sTNF-RII, sVEGF-RI, sVEGF-RII, sVEGF-RIII |
| Volume Required Per Replicate | 50uL | 20uL | 20uL |
| Typical Dilution | 1:10 | 1:5 | 1:5 |
| Manufacturer Defined Minimum Detectible Concentration | 7.70 pg/mL | 48.00 pg/mL | 30.00 pg/mL |
| UVM Observed Minimum Detectible Concentration | 70.20 pg/mL | 48.00 pg/mL | 30.00 pg/mL |
| Notes | | Obsolete. Replaced by Magnetic | Replacement for HSCR-32K |
| UVM Run Date | 9/17/2015 | 2/4/2014 | 6/27/2015 |
| SCS081611: 1 | 1,146.248 | 1,416.96 | 1164.04 |
| SCS081611: 2 | 800.479 | 902.86 | 672.35 |
| SCS081611: 3 | 896.499 | 859.24 | 789.96 |
| SCS081611: 4 | 671.039 | 959.72 | 665.59 |
| SCS081611: 5 | 899.306 | 1,038.80 | 915.81 |
| SCS081611: 6 | 854.278 | 847.18 | 795.97 |
| SCS081611: 7 | 811.084 | 948.20 | 816.76 |
| SCS081611: 8 | 935.737 | 880.50 | 907.6 |
| SCS081611: 9 | 1,124.099 | 885.78 | 860.15 |
| SCS081611: 10 | 759.240 | 967.36 | 754.77 |
| SCS081611: 11 | 968.369 | 908.09 | 800.45 |
| SCS081611:12 | 846.829 | 828.28 | 771.74 |
| SCS081611: 13 | 983.259 | 1,135.84 | 919.89 |
| SCS081611: 14 | 1,030.646 | 1,206.48 | 1036 |
| SCS081611: 15 | 882.452 | 1,096.24 | 851.59 |
| SCS081611: 16 | 787.552 | 968.63 | 731.2 |
| SCS081611: 17 | 960.919 | 1,199.49 | 1274.86 |
| SCS081611: 18 | 916.127 | 1,070.73 | 828.48 |
| SCS081611: 19 | 977.682 | 1,041.27 | 953.45 |
| SCS081611: 20 | 772.457 | 885.78 | 698.93 |
| Average | 901.215 | 1,002.372 | 860.480 |

Notes: Serum and EDTA are NOT sourced from the same pools. Each set is from unique pools/participants. Sample type results may differ due to a number of factors including: measured range of set, sample type variability, reagent lot variability, specimen conditions, pre-analytical variation etc.

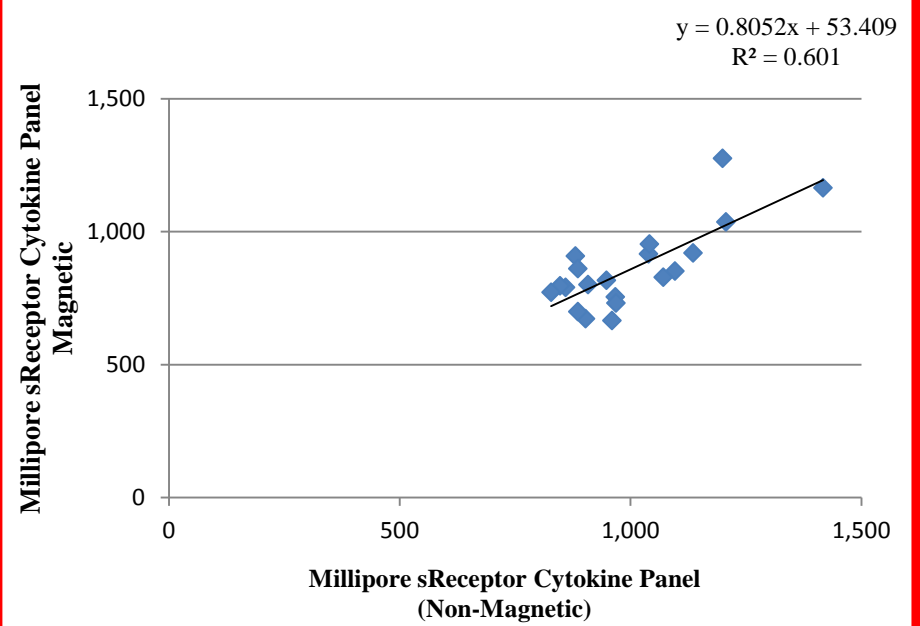
SCS = Serum Control Set

TNF Receptor 1

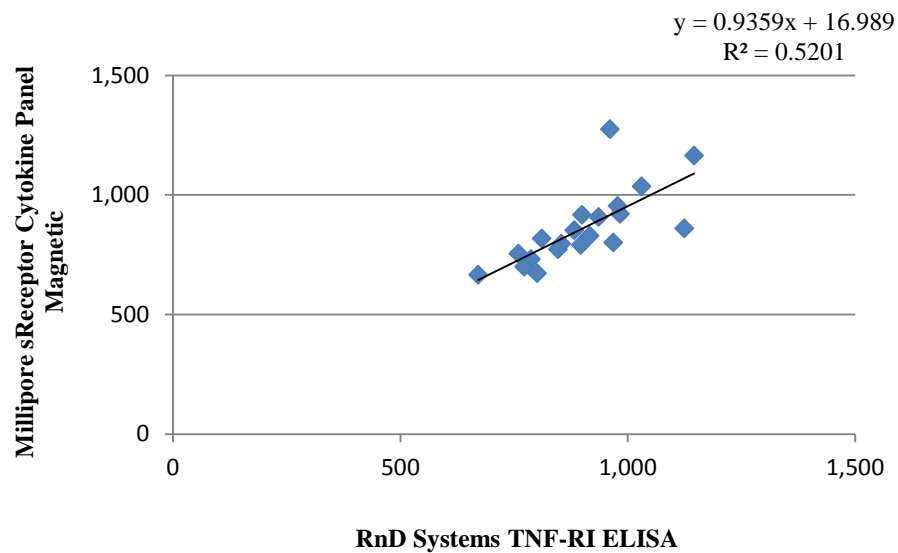
Serum: RnD Systems TNF-RI ELISA vs Millipore sReceptor Cytokine Panel (Non-Magnetic)



Serum: Millipore sReceptor Cytokine Panel Non-Magnetic vs. Magnetic



Serum: RnD Systems TNF-RI ELISA vs Millipore sReceptor Cytokine Panel (Magnetic)



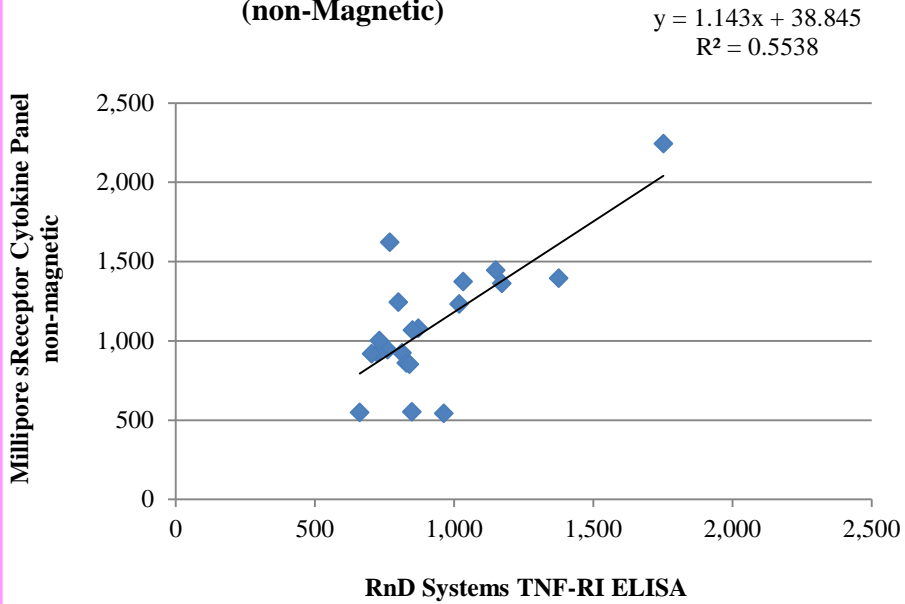
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|---|--------------------------|--|--|
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| Notes | | Obsolete. Replaced by Magnetic | Replacement for HSCR-32K |
| UVM Run Date | 9/17/2015 | 2/4/2014 | 6/27/2015 |
| ECS052510: 1 | 768.686 | 1,620.01 | 1,231.06 |
| ECS052510: 2 | 812.990 | 922.41 | 938.46 |
| ECS052510: 3 | 1,376.341 | 1,393.96 | 1,443.47 |
| ECS052510: 4 | 848.705 | 551.03 | 722.12 |
| ECS052510: 5 | 1,149.936 | 1,444.15 | 1,412.88 |
| ECS052510: 6 | 799.806 | 1,243.47 | 879.81 |
| ECS052510: 7 | 1,172.045 | 1,360.85 | 1,445.49 |
| ECS052510: 8 | 660.563 | 547.81 | 712.48 |
| ECS052510: 9 | 761.128 | 943.07 | 851.62 |
| ECS052510: 10 | 723.277 | 922.41 | 890.92 |
| ECS052510: 11 | 1,751.915 | 2,242.54 | 2,145.50 |
| ECS052510: 12 | 1,032.505 | 1,371.92 | 1,313.20 |
| ECS052510: 13 | 703.361 | 917.21 | 865.79 |
| ECS052510: 14 | 828.041 | 859.24 | 931.77 |
| ECS052510: 15 | 962.783 | 541.34 | 702.76 |
| ECS052510: 16 | 731.806 | 1,001.46 | 971.44 |
| ECS052510: 17 | 1,018.584 | 1,231.96 | 840.16 |
| ECS052510: 18 | 871.217 | 1,078.04 | 942.45 |
| ECS052510: 19 | 839.317 | 851.21 | 692.94 |
| ECS052510: 20 | 850.584 | 1,065.84 | 989.59 |
| Average | 933.180 | 1,105.497 | 1,046.196 |

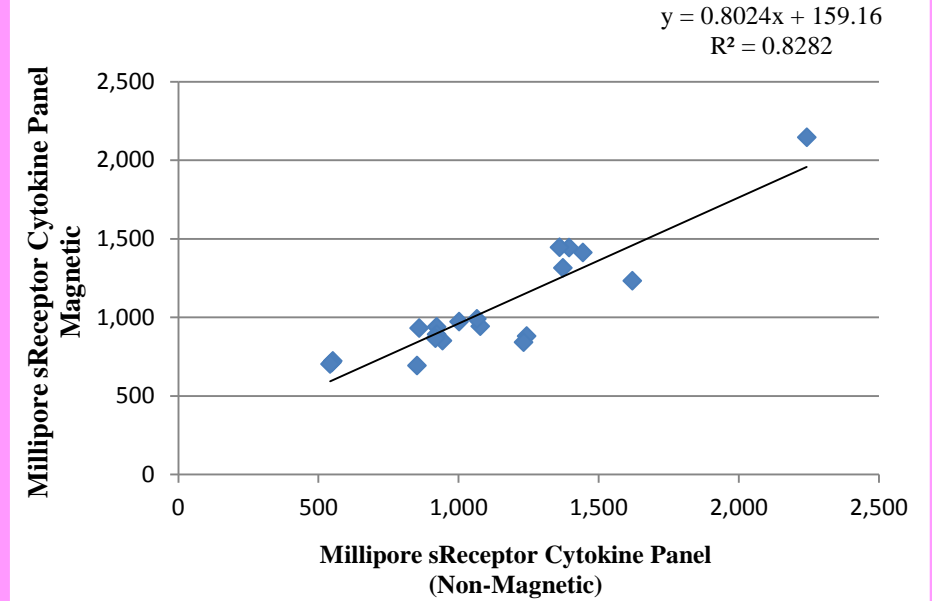
ECS = EDTA Control Set

TNF Receptor 1

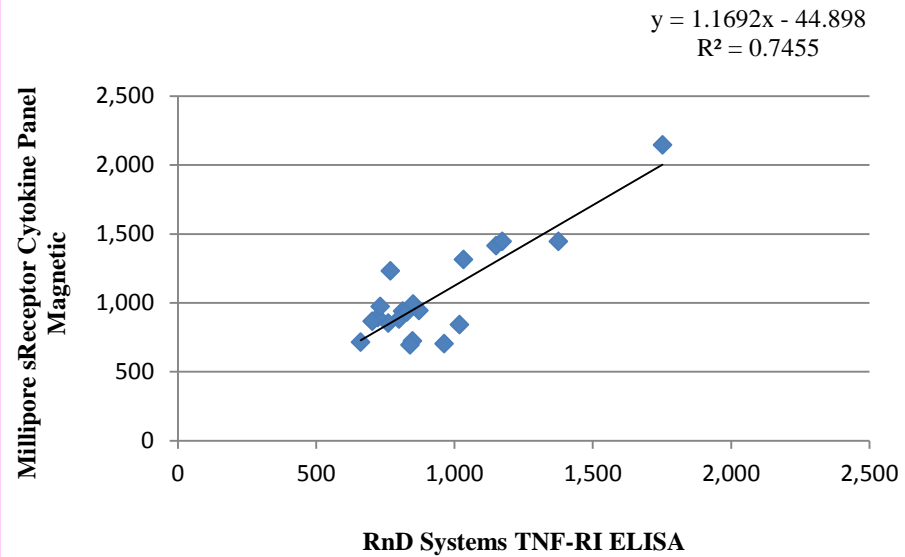
EDTA: RnD Systems TNF-RI ELISA vs Millipore sReceptor Cytokine Panel (non-Magnetic)



EDTA: Millipore sReceptor Cytokine Panel Non-Magnetic vs. Magnetic



EDTA: RnD Systems TNF-RI ELISA vs Millipore sReceptor Cytokine Panel (Magnetic)

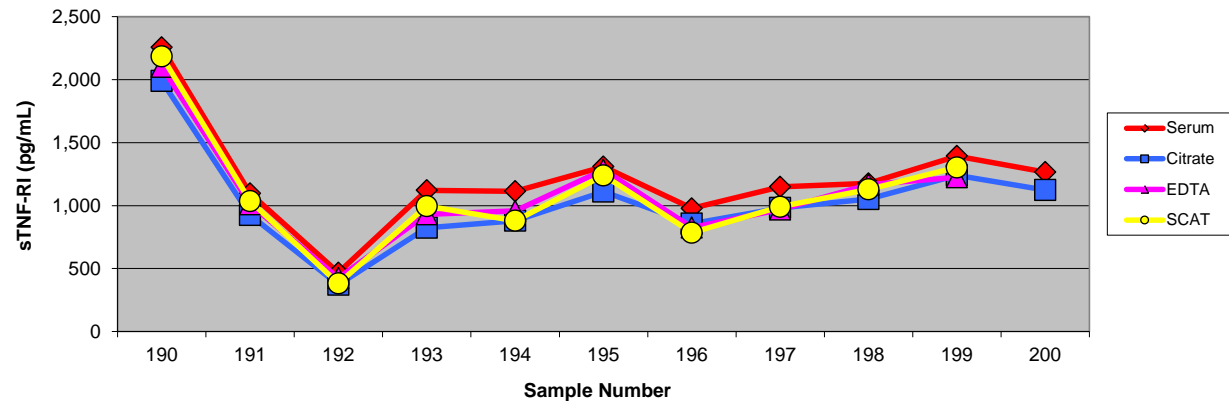


Millipore Soluble Receptor Cytokine Panel
sTNF-RI

Tube Type and Freeze Thaw Comparison

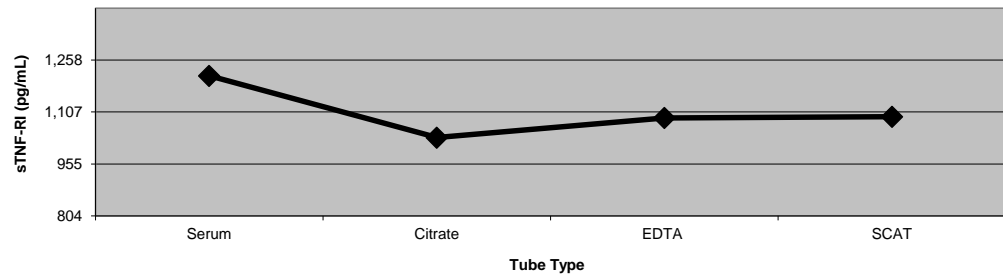
| Sample Number | Serum | Citrate | EDTA | SCAT |
|---------------------|-----------------|-----------------|-----------------|-----------------|
| 190 | 2,257.52 | 1,989.04 | 2,101.79 | 2,185.30 |
| 191 | 1,097.55 | 925.39 | 1,010.32 | 1,036.03 |
| 192 | 467.80 | 371.32 | 424.80 | 381.88 |
| 193 | 1,121.35 | 824.37 | 930.46 | 995.52 |
| 194 | 1,114.23 | 879.28 | 956.92 | 880.58 |
| 195 | 1,309.15 | 1,110.66 | 1,284.38 | 1,240.05 |
| 196 | 978.16 | 855.90 | 825.69 | 784.32 |
| 197 | 1,148.49 | 980.65 | 969.43 | 990.57 |
| 198 | 1,176.57 | 1,051.83 | 1,167.24 | 1,129.63 |
| 199 | 1,393.79 | 1,239.65 | 1,224.29 | 1,302.56 |
| 200 | 1,265.83 | 1,123.64 | | |
| Average | 1,211.86 | 1,031.98 | 1,089.53 | 1,092.64 |
| Sample Type Average | 1,106.50 | | | |
| Sample Type Stdev | 75.57 | | | |
| Sample Type CV% | 6.83 | | | |

Millipore Soluble Receptor Cytokine Panel sTNF-RI Tube Type Comparison By Sample Number

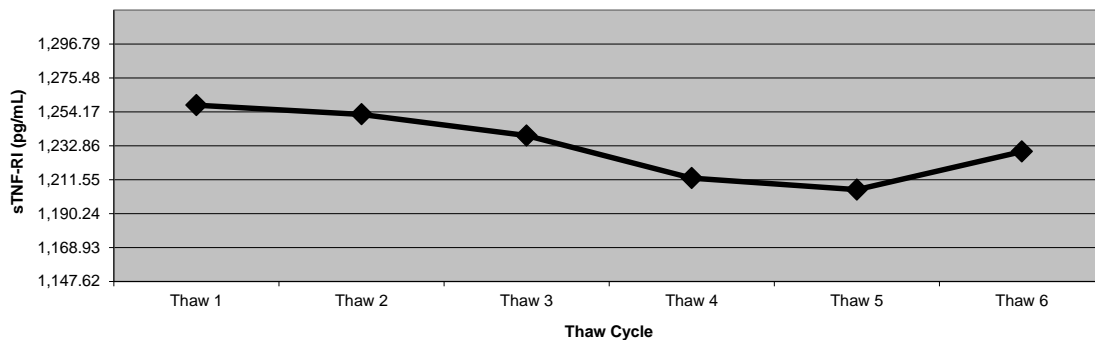


| Sample Number | Thaw 1 | Thaw 2 | Thaw 3 | Thaw 4 | Thaw 5 | Thaw 6 |
|---------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 199 Serum | 1,393.79 | 1,363.29 | 1,408.43 | 1,312.22 | 1,408.43 | 1,444.78 |
| 199 Citrate | 1,239.65 | 1,203.31 | 1,236.37 | 1,162.06 | 1,156.44 | 1,085.87 |
| 199 EDTA | 1,224.29 | 1,277.76 | 1,238.56 | 1,292.88 | 1,260.39 | 1,320.78 |
| 199 SCAT | 1,302.56 | 1,242.94 | 1,184.43 | 1,144.04 | 1,176.62 | 1,208.85 |
| 200 Serum | 1,265.83 | 1,373.83 | 1,285.33 | 1,331.46 | 1,225.39 | 1,271.26 |
| 200 Citrate | 1,123.64 | 1,054.58 | 1,082.41 | 1,032.34 | 1,003.97 | 1,044.06 |
| Average | 1,258.29 | 1,252.62 | 1,239.26 | 1,212.50 | 1,205.21 | 1,229.27 |
| Freeze/Thaw Average | 1,232.86 | | | | | |
| Freeze/Thaw Stdev | 21.31 | | | | | |
| Freeze/Thaw CV% | 1.73 | | | | | |

Millipore Soluble Receptor Cytokine Panel sTNF-RI Tube Type Comparison By Type



Millipore Soluble Receptor Cytokine Panel sTNF-RI Freeze Thaw



| |
|--|
| Range of Standard Curve: 3.05 - 50,000 pg/mL |
| Working Range (Range * Dilution): 15.25 - 250,000 pg/mL |
| Manufacturer Defined Minimum Detectable Concentration: 9.6 pg/mL |
| Manufacturer Defined MDC * Dilution: 48 pg/mL |
| Manufacturer Defined Intra-Assay CV% = 4.1 |
| Manufacturer Defined Inter-Assay CV% 6.6 |
| Manufacturer Recommended Sample Type: Serum or Plasma |

Citrate, EDTA and SCAT all appear to be running very similarly. Serum appears to be running about 12% higher than the other analytes. Freeze/Thaw appears non-existent to negligible. The CV% for the average of all the thaw cycles is only 1.73%, far below the expected Intra-Assay CV%.