## Supplemental Tables

**Supplemental Table 1. Additional characterization data for rosette nanotubes from select publications.**

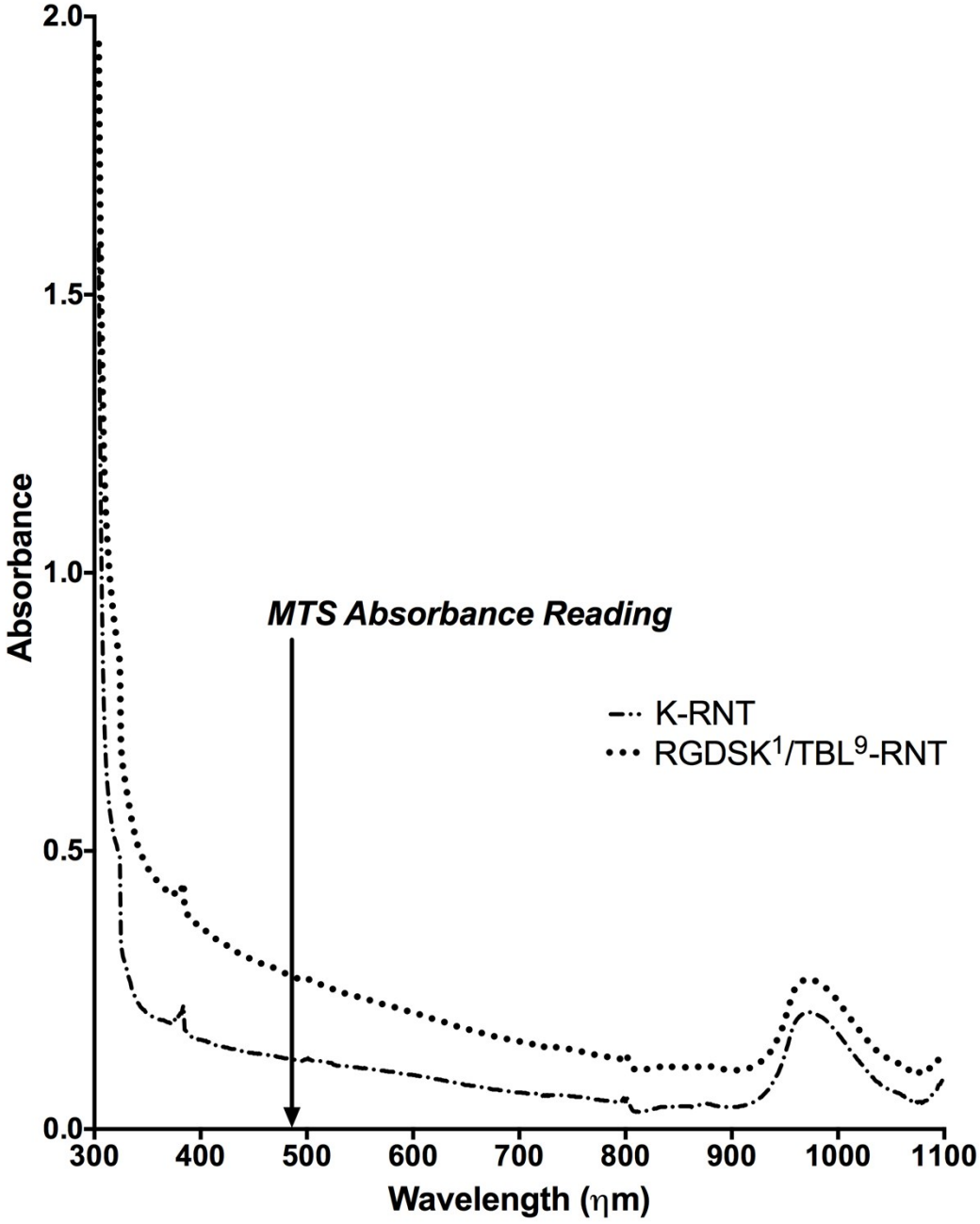
| Source | Functionalization | Media | Characterization Technique | Measurement |
|---|---|---|---|---|
| 1 | crown ether | water | DLS (20, 30, 40 °C) | 25.3, 52.7, 81.3 nm |
| | | | SAXS | 3.6 nm diameter |
| | | | TEM | 3.9 nm diameter |
| 2 | lysine | MES buffer | DLS | 30.4 nm |
| | | | TEM | 4.0 nm diameter<br>60 nm length (average) |
| 3 | lysine | water | TEM | 3.5 nm diameter |
| 4 | lysine | titanium substrate | TEM | 3.4 nm diameter |
| | | | AFM | 3.1 nm diameter |
| 5 | lysine | water | DLS | 36 nm |
| | | | TEM | 3.4 nm diameter |
| | | | AFM | 3.2 nm diameter |

**References:** [1] Fenniri et al. (2002) [2] Fenniri et al. (2001) [3] Fine et al. (2009) [4] Chun et al. (2005) [5] Moralez et al. (2005)
**Abbreviations:** (DLS) – dynamic light scattering, reported as hydrodynamic radius ($R_H$); (SAXS) – small angle x-ray scattering; (TEM) – transmission electron microscopy ; (AFM) – atomic force microscopy

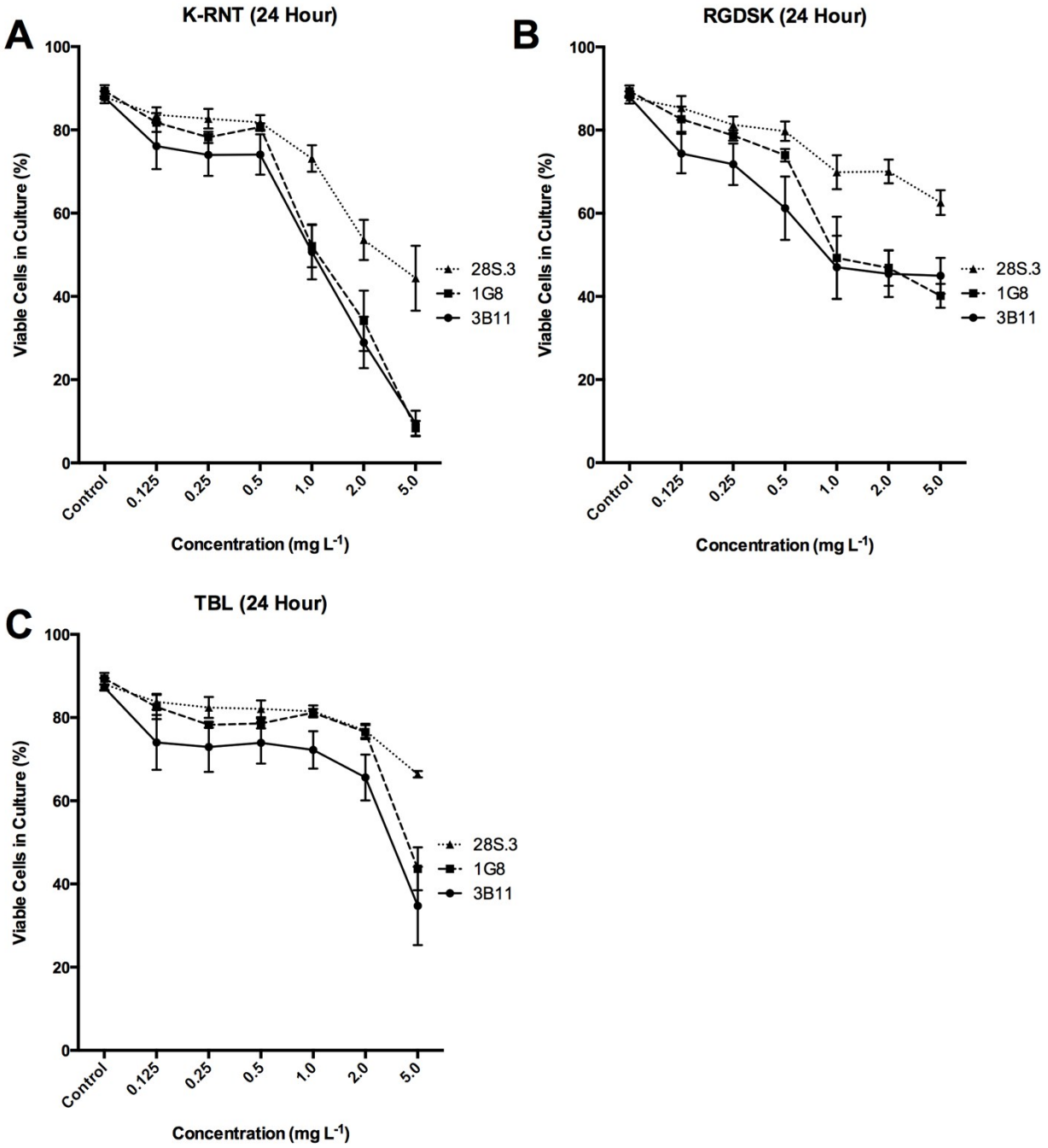
**Supplemental Table 2. Dosing metric conversions for lysine-functionalized rosette nanotubes.**

| Functionalization | Molar Mass (g/mol) | Surface Area ($m^2/g$) | Equivalent Nanomaterial Dosing Metrics | | |
|---|---|---|---|---|---|
| | | | Mass Per Volume (mg/L) | Particle Number per Volume (mol/L) | Surface Area per Volume ($m^2/L$) |
| K-RNT | 564.89 | $2.5x10^3$ | 10 | $1.77 \times 10^{-5}$ | 25 |
| | | | 50 | $8.85 \times 10^{-5}$ | 125 |
| | | | 100 | $1.77 \times 10^{-4}$ | 250 |

**Supplemental Figures**




**Supplemental Figure 1. RNTs absorb light at wavelengths important for toxicological assays.** A 300-1100 nm absorbance spectrum for 100 mg $L^{-1}$ suspensions of K- and $RGDSK^1/TBL^9$-RNTs demonstrates the intrinsic optical properties of these materials. Significant absorbance at 490 nm suggests potential interference with MTS assay outputs.




**Supplemental Figure 2. 3B11, 1G8 and 28S.3 response to RNT exposure was cell-line dependent.** Flow cytometric data grouped by functionalization allowed a more direct comparison between cell-lines. $2.0x10^4$ 3B11, 1G8 or 28S.3 cells were incubated with 0.125, 0.25, 0.5, 1.0, 2.0 or 5.0 mg $L^{-1}$ **(A)** K-RNT, **(B)** TBL-RNT or **(C)** RGDSK[1]/TBL[9]-RNT for 24 h. At high concentrations (1, 2 and 5 mg $L^{-1}$ RNT), the response of 3B11 and 1G8 cell lines was similar, and significantly different, from 28S.3 cells. Data were analyzed by three-way ANOVA with a Holm-Sidak *post hoc* test ($p<0.05$). Means ± SEM are shown, n=5.