

# PERFORMANCE DATA SHEET

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## Human CD137(4-1BB) huIg/R-PE *Fusion Protein\**

**CATALOG#:** 502-050

**QUANTITY:** 50 tests

**VOLUME IN VIAL:** 200 µl

**WORKING DILUTION:** 1:20 (or use 4 µl of concentrated stock per 5 x 10<sup>5</sup>-cell test)

**Molecular Structure:** A soluble 55 kd fusion protein consisting of the extracellular (186aa) domain of human CD137 (4-1BB) fused to human IgG1 Fc (4).

**Transfectant Cell Line:** CHO

**INFORMATION:** Human CD137 (4-1BB) is expressed on activated T cells within 24-48 hours of activation (3). CD137 is a type I membrane protein and a member of the tumor necrosis factor receptor superfamily (1,2). CD137 appears to be important for T cell proliferation and survival (4). The interaction of CD137 (4-1BB) and CD137L can supply a costimulatory signal to T cells through CD137. This costimulus seems to be more effective for CD8+ effector T cells than for CD4+ helper T cells (6). The interaction can also induce monocyte activation through CD137L (5). CD137 huIg fusion binds to cell surface CD137L on Raji cells in flow cytometry.

**REFERENCES:** 1) M.R. Alderson, et al, (1994) *Eur J Immunol* 24: 2219-2227. 2) H.J. Gruss, and S.K. Dower, (1995) *Blood* 85: 3378-3404. 3) B.A. Garni-Wagner, et al, (1996) *Cellular Immunol* 169: 91-98. 4) H. Schwarz, et al, (1996) *Blood* 87: 2839-2845. 5) J. Langstein, et al, (1998) *J Immunol* 160: 2488-2494. 6) V.Y. Taraban, et al, (2002) *Eur J. Immunol.* 32: 3617-3627.

**STORAGE CONDITIONS:** Store at 2 - 5°C. Freeze/Thawing is not recommended. Protect from light.

**PRODUCT STABILITY:** Product should retain activity for at least 6 months after shipping date when stored as recommended. Ship Date: \_\_\_\_\_

**BUFFER:** 50 mM Sodium Phosphate pH 7.5, 100 mM Potassium Chloride, 150mM NaCl, 5% Glycerol, 0.04% NaN<sub>3</sub> (as a preservative).

**PRODUCTION:** Human CD137 Ig fusion protein was purified by Protein A and size exclusion chromatography from (low FBS containing) tissue culture supernatant of CHO transfectants. Purity was >90% by SDS-PAGE. Purified fusion protein was conjugated to R-Phycoerythrin through a sulfo-ester linkage. Unconjugated fusion protein was removed using size exclusion chromatography. CD137-huIg/R-PE conjugate is at 0.2 mg/ml with a PE to (dimeric) protein molar ratio of 1.3.

**PERFORMANCE:** Five x 10<sup>5</sup> cultured Raji human tumor cells were washed and incubated 45 minutes on ice with 80 µl of CD137-huIg/R-PE at a dilution factor of 1:20 (10 µg/ml). Cells were washed three times, fixed and analyzed using by FACS. The cells stained positive with a mean shift of 0.73 log<sub>10</sub> fluorescent units when compared to a buffer background. Binding was blocked when cells were pre incubated 10 minutes with 20 µl of 0.5 mg/ml unlabeled CD137-huIg (Catalog #502-020).

*\*Research Use Only. Not for use in Diagnostic procedures.*

### Binding of CD137-huIg/PE to human Raji cells

