

# Validation data for recombinant human TNF- $\alpha$

<https://www.invivogen.com/human-tnfa>

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Version 23J27-AK

Tumor necrosis factor alpha (TNF- $\alpha$ ) is a pleiotropic inflammatory cytokine playing an important role in the immune response to microbial invasions and in the necrosis of specific tumors. Its size and purity was assessed using SDS PAGE (Figure 1). The biological activity of TNF- $\alpha$  has been confirmed using InvivoGen's HEK-Blue™ TNF- $\alpha$  cells (Figure 2). Binding of TNF- $\alpha$  to its receptor on the surface of HEK-Blue™ TNF- $\alpha$  cells triggers a signaling cascade leading to the activation NF- $\kappa$ B and the subsequent production of SEAP. Levels of SEAP can be easily measured using QUANTI-Blue™, a detection reagent.

## Detection by SDS-PAGE

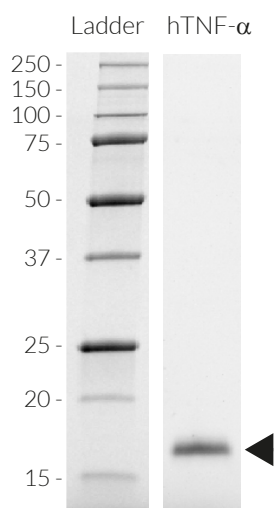


Figure 1. SDS PAGE of the recombinant human (h)TNF- $\alpha$  protein. 1 $\mu$ g of hTNF- $\alpha$  was loaded on a 12% Mini-PROTEAN® TGX Stain-Free™ Precast Gel (Bio-Rad). Detection was performed as per the manufacturer's instructions. A band was detected at ~17 kDa.

## Dose-response in HEK cells to human TNF- $\alpha$

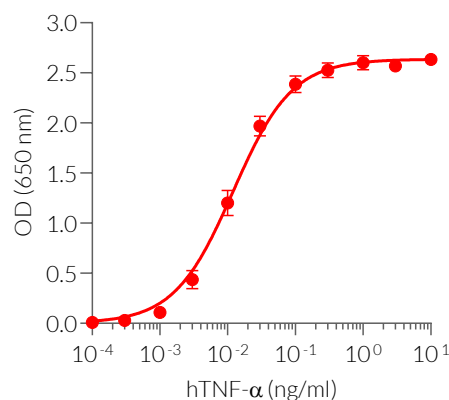


Figure 2. Dose-response in HEK-Blue™ TNF- $\alpha$  cells to recombinant TNF- $\alpha$  cytokine. Cells were stimulated with increasing concentrations of recombinant human TNF- $\alpha$ . After overnight incubation, the NF- $\kappa$ B-induced SEAP activity was determined using QUANTI-Blue™, a SEAP detection reagent. Data are shown as optical density (OD) at 650 nm (mean  $\pm$  SEM).

### TECHNICAL SUPPORT

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