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TP40 Immunotoxin

National Cancer Institute

Source

National Cancer Institute. *TP40 Immunotoxin*. NCI Thesaurus. Code C2374.

A chimeric fusion protein containing human transforming growth factor alpha (TGF- α) covalently linked to a truncated form of the bacterial toxin *Pseudomonas* exotoxin A, PE40, with potential antitumor activity. PE40 lacks the cell-binding domain, but retains domains II and III that are involved in membrane translocation and inhibition of protein synthesis in eukaryotic cells. TGF- α moiety of the TP40 immunotoxin binds to and activates epidermal growth factor receptor (EGFR), a tyrosine kinase receptor overexpressed on certain cancer cells. After internalization, the endotoxin moiety of the immunotoxin-receptor complex causes protein synthesis inhibition via modifying translation elongation factor 2 (EF-2), thereby impedes tumor cell growth and proliferation.