TRAF2:cIAP1/2 complex binds FN14:TWEAK

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Introduction

Reactome is open-source, open access, manually curated and peer-reviewed pathway database. Pathway annotations are authored by expert biologists, in collaboration with Reactome editorial staff and cross-referenced to many bioinformatics databases. A system of evidence tracking ensures that all assertions are backed up by the primary literature. Reactome is used by clinicians, geneticists, genomics researchers, and molecular biologists to interpret the results of high-throughput experimental studies, by bioinformaticians seeking to develop novel algorithms for mining knowledge from genomic studies, and by systems biologists building predictive models of normal and disease variant pathways.

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Literature references

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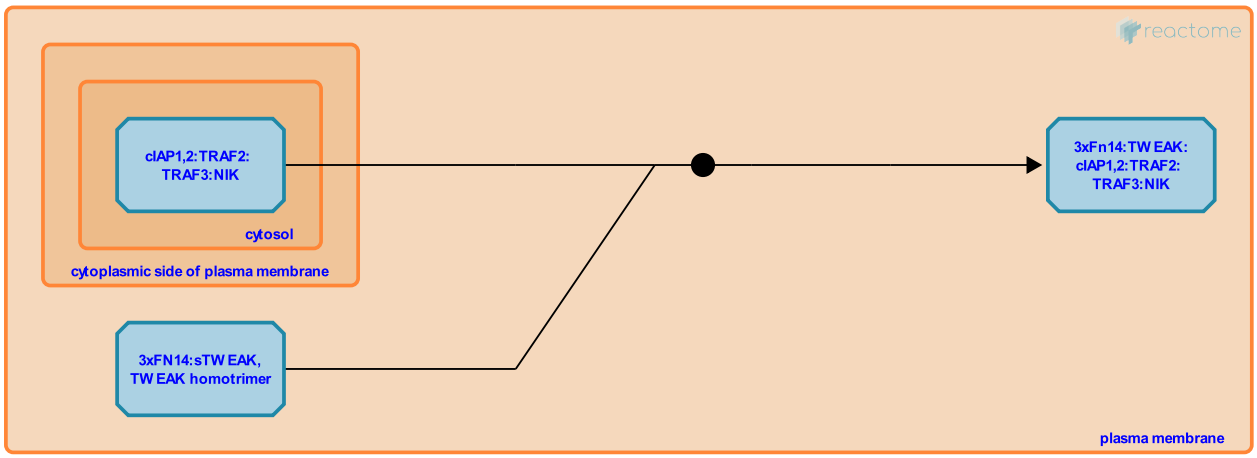
Stable identifier: R-HSA-5676598

Type: binding

Compartments: plasma membrane, cytosol



The FN14 (TNFRSF12A) intracellular domain lacks the characteristic death domain of TNF receptor superfamily (TNFRSF) but contains TNFR-associated factor (TRAF) binding sites. Upon TWEAK binding, FN14 recruits TRAF2 and TRAF3 to activate both canonical and non-canonical nuclear factor-kappa B (NF-kB) pathway (Brown et al. 2003, Saitoh et al. 2003, Sanz et al. 2010). NF-kB activation plays a key role in TWEAK-elicited inflammatory responses. TWEAK/FN14 binding induces NIK activation through targeting the degradation of TRAF2/cellular inhibitor of apoptosis (cIAP) 1 and 2 complex (Vince et al. 2008). TWEAK activation of the non-canonical NF-kB pathways promotes inflammatory responses in tubular cells. In cultured renal tubular cells TWEAK increases nuclear RelB/p52 accumulation, RelB and p52 DNA-binding activity, and NIK- and RelB-dependent CCL21 and CCL19 expression (Poveda et al. 2010).

Literature references

Richards, CM., Feng, SL., Winkles, JA., Brown, SA., Hanscom, HN. (2003). The Fn14 cytoplasmic tail binds tumour-necrosis-factor-receptor-associated factors 1, 2, 3 and 5 and mediates nuclear factor-kappaB activation. *Biochem. J., 371*, 395-403. ↗

Editions

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