

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat Fas/TNFRSF6/CD95 in Western blots. In Western blots, less than 5% cross-reactivity with recombinant human Fas, recombinant mouse Fas, and recombinant feline Fas (under non-reducing conditions) is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat Fas/TNFRSF6/CD95 Gln22-Lys170 Accession # NP_631933
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Rat Fas/TNFRSF6/CD95 Fc Chimera (Catalog # 2159-FA)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Fas, also known as APO-1, CD95, and TNFRSF6, belongs to the death receptor family, which is a subfamily of the TNF receptor superfamily (1). Death receptors contain a cytoplasmic death domain (DD), which is required for transducing apoptotic signals. Engagement of Fas by its ligand (FasL) or agonistic anti-Fas antibodies induces dimerization and oligomerization of preformed Fas trimers. The activated receptor recruits the adaptor molecule FADD to form the Death-Inducing Signaling Complex (DISC) that also contains caspases. Upon activation, the caspases initiate a signaling cascade that induces the characteristic apoptotic phenotypes (2). Fas is highly expressed in epithelial cells, hepatocytes, activated mature lymphocytes, virus-transformed lymphocytes and other tumor cells. Fas expression has also been detected in mouse thymus, liver, heart, lung, kidney and ovary. FasL is a member of the TNF family of type 2 membrane proteins. FasL is predominantly expressed by activated T-lymphocytes, NK cells, and in tissues with immune-privileged sites (3).

Fas plays a role in the down-regulation of the immune reaction and has been shown to be an essential mediator of activation-induced death of activated T lymphocytes. Fas-mediated cell death has also been shown to be important for the deletion of activated or autoreactive B-lymphocytes. Both human and mice with genetic defects in Fas accumulate abnormal lymphocytes and develop systemic autoimmunity (4). Besides the perforin/granzyme-based mechanism, the Fas-FasL system has been identified as the alternate pathway for CTL-mediated cytotoxicity (5). FasL has also been shown to function in immunological privileged sites by killing infiltrating Fas-bearing lymphocytes and inflammatory cells (6). Rat Fas cDNA encodes a 324 amino acid residue type 1 membrane protein. The extracellular domain of rat Fas shares 54.1% and 66.7% amino acid sequence identity with that of human and mouse Fas, respectively.

References:

1. Ashkenazi, A. and V. Dixit (1999) *Curr. Opin. Cell Biol.* **11**:255.
2. Thorburn, S. (2003) *Cellular Signaling* **16**:139.
3. Green, D.R. and C.F. Ware (1997) *Proc. Natl. Acad. Sci. USA* **94**:5986.
4. Siegel, R.M. *et al.* (2003) *Immunol. Res.* **27**:499.
5. Barry, M. *et al.* (2000) *Mol. Cell Biol.* **20**:3781.
6. Barreiro, R. *et al.* (2004) *J. Immunol.* **173**:1519.