



# T-kininogen 1/2 (F-12): sc-103886

## BACKGROUND

In rats, four types of kininogens are produced, two of which are classical high and low molecular weight kininogens and two of which are low molecular weight-like kininogens, designated T-kininogen 1 and T-kininogen 2. T-kininogen 1 and T-kininogen 2 are 430 amino acid secreted rat proteins that each contain three cystatin domains and have nearly identical functions. Existing in plasma, both T-kininogen 1 and T-kininogen 2 are glycoproteins that act as thiol protease inhibitors and also play a role in blood coagulation, specifically by helping to optimally position blood coagulation factors. Additionally, T-kininogen 1 and T-kininogen 2 act as precursors of the active peptide Bradykinin and, as such, effect vascular permeability, hypotension and smooth muscle contraction.

## REFERENCES

1. Furuto-Kato, S., Matsumoto, A., Kitamura, N. and Nakanishi, S. 1985. Primary structures of the mRNAs encoding the rat precursors for bradykinin and T-kinin. Structural relationship of kininogens with major acute phase protein and  $\alpha$  1-cysteine proteinase inhibitor. *J. Biol. Chem.* 260: 12054-12059.
2. Anderson, K.P. and Heath, E.C. 1985. The relationship between rat major acute phase protein and the kininogens. *J. Biol. Chem.* 260: 12065-12071.
3. Kageyama, R., Kitamura, N., Ohkubo, H. and Nakanishi, S. 1987. Differing utilization of homologous transcription initiation sites of rat K and T-kininogen genes under inflammation condition. *J. Biol. Chem.* 262: 2345-2351.
4. Moreau, T., Esnard, F., Gutman, N., Degand, P. and Gauthier, F. 1988. Cysteine-proteinase-inhibiting function of T-kininogen and of its proteolytic fragments. *Eur. J. Biochem.* 173: 185-190.
5. Isordia-Salas, I., Pixley, R.A., Parekh, H., Kunapuli, S.P., Li, F., Stadnicki, A., Lin, Y., Sartor, R.B. and Colman, R.W. 2003. The mutation Ser511Asn leads to N-glycosylation and increases the cleavage of high molecular weight kininogen in rats genetically susceptible to inflammation. *Blood* 102: 2835-2842.
6. Sainz, I.M., Isordia-Salas, I., Castaneda, J.L., Agelan, A., Liu, B., DeLa Cadena, R.A., Pixley, R.A., Adam, A., Sartor, R.B. and Colman, R.W. 2005. Modulation of inflammation by kininogen deficiency in a rat model of inflammatory arthritis. *Arthritis Rheum.* 52: 2549-2552.
7. Aravena, M., Perez, C., Perez, V., Acuña-Castillo, C., Gómez, C., Leiva-Salcedo, E., Nishimura, S., Sabaj, V., Walter, R. and Sierra, F. 2005. T-kininogen can either induce or inhibit proliferation in Balb/c 3T3 fibroblasts, depending on the route of administration. *Mech. Ageing Dev.* 126: 399-406.
8. Acuña-Castillo, C., Aravena, M., Leiva-Salcedo, E., Perez, V., Gómez, C., Sabaj, V., Nishimura, S., Perez, C., Colombo, A., Walter, R. and Sierra, F. 2005. T-kininogen, a cystatin-like molecule, inhibits ERK-dependent lymphocyte proliferation. *Mech. Ageing Dev.* 126: 1284-1291.
9. Camargo, E.A., Ferreira, T., Ribela, M.T., de Nucci, G., Landucci, E.C. and Antunes, E. 2008. Role of substance P and bradykinin in acute pancreatitis induced by secretory phospholipase A2. *Pancreas* 37: 50-55.

## SOURCE

T-kininogen 1/2 (F-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of T-kininogen 2 of rat origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-103886 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

T-kininogen 1/2 (F-12) is recommended for detection of full length and heavy chain of T-kininogen 1 and 2 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with family member Kininogen.

Molecular Weight of T-kininogen 1: 48 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.