

TGF- β 1 (Mouse) ELISA

Enzyme-linked Immunosorbent Assay for detection of mouse TGF- β 1.

For research use only.

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

REF **IB49689**

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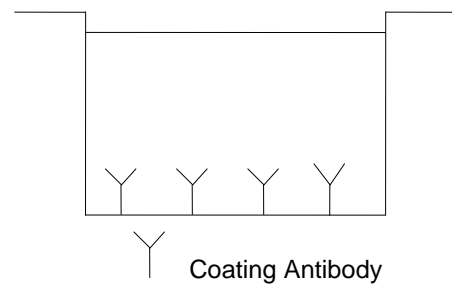
1. Intended Use

The mouse TGF- β 1 ELISA is an enzyme-linked immunosorbent assay for the detection of mouse TGF- β 1. **For research use only, not for use in diagnostic procedures.**

2. Principle of the Test

An anti-mouse TGF- β 1 coating antibody is adsorbed onto microwells.

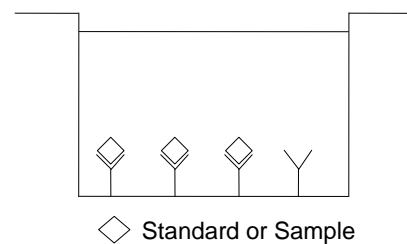
Figure 1 **Coated Microwell**



Mouse TGF- β 1 present in the sample or standard binds to antibodies adsorbed to the microwells.

Figure 2

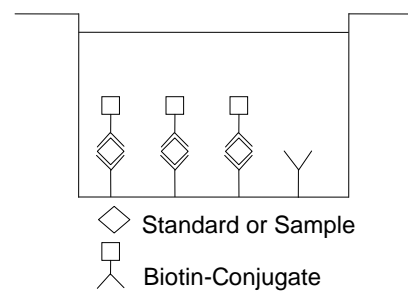
First Incubation



A biotin-conjugated anti-mouse TGF- β 1 antibody is added and binds to mouse TGF- β 1 captured by the first antibody.

Figure 3

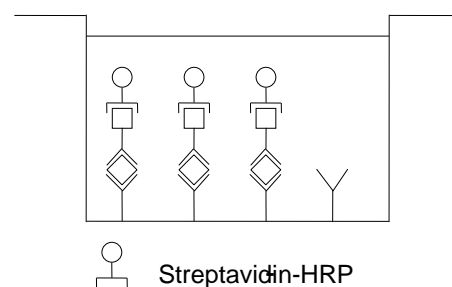
Second Incubation



Following incubation unbound biotin-conjugated anti-mouse TGF- β 1 antibody is removed during a wash step. Streptavidin-HRP is added and binds to the biotin-conjugated anti-mouse TGF- β 1 antibody.

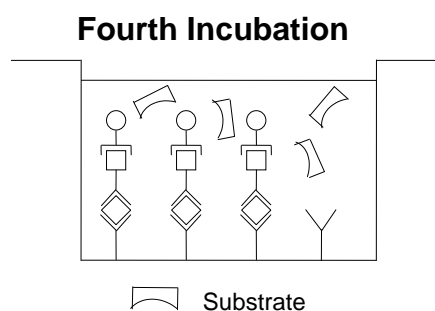
Figure 4

Third Incubation



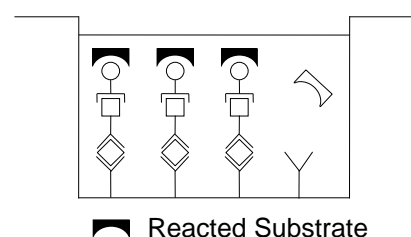
Following incubation unbound Streptavidin-HRP is removed during a wash step, and substrate solution reactive with HRP is added to the wells.

Figure 5



A coloured product is formed in proportion to the amount of mouse TGF- β 1 present in the sample or standard. The reaction is terminated by addition of acid and absorbance is measured at 450 nm. A standard curve is prepared from 7 mouse TGF- β 1 standard dilutions and mouse TGF- β 1 sample concentration determined.

Figure 6



3. Reagents Provided

- 1 aluminum pouch with a **Microwell Plate coated** with monoclonal antibody to mouse TGF- β 1
- 1 vial (120 μ l) **Biotin-Conjugate** anti-mouse TGF- β 1 polyclonal antibody
- 1 vial (150 μ l) **Streptavidin-HRP**
- 2 vials mouse TGF- β 1 **Standard** lyophilized, 4 ng/ml upon reconstitution
- 2 vials (5 ml) **Assay Buffer Concentrate 20x**
(PBS with 1% Tween 20 and 10% BSA)
- 1 bottle (50 ml) **Wash Buffer Concentrate 20x**
(PBS with 1% Tween 20)
- 1 vial (3 ml) 1 N HCl
- 1 vial (3 ml) 1 N NaOH
- 1 vial (15 ml) **Substrate Solution** (tetramethyl-benzidine)
- 1 vial (15 ml) **Stop Solution** (1M Phosphoric acid)
- 1 vial (0.4 ml) **Blue-Dye**
- 1 vial (0.4 ml) **Green-Dye**
- 1 vial (0.4 ml) **Red-Dye**
- 6 **Adhesive Films**

4. Storage Instructions – ELISA Kit

Store kit reagents between 2° and 8°C. Immediately after use remaining reagents should be returned to cold storage (2° to 8°C). Expiry of the kit and reagents is stated on labels. Expiry of the kit components can only be guaranteed if the components are stored properly, and if, in case of repeated use of one component, this reagent is not contaminated by the first handling.

5. Specimen Collection and Storage Instructions

Cell culture supernatant *, serum and plasma (EDTA, citrate) were tested with this assay. Other biological samples might be suitable for use in the assay. Remove serum or plasma from the clot or cells as soon as possible after clotting and separation.

Samples containing a visible precipitate must be clarified prior to use in the assay. Do not use grossly hemolyzed or lipemic specimens.

Samples should be aliquoted and must be stored frozen at -20°C to avoid loss of bioactive mouse TGF-β1. If samples are to be run within 24 hours, they may be stored at 2° to 8°C (for sample stability refer to 12.5). Avoid repeated freeze-thaw cycles. Prior to assay, the frozen sample should be brought to room temperature slowly and mixed gently.

* Pay attention to a possibly elevated blank signal in cell culture supernatant samples containing serum components (e.g. FCS), due to latent TGF-β levels in animal serum.

6. Materials Required But Not Provided

- 5 ml and 10 ml graduated pipettes
- 5 µl to 1000 µl adjustable single channel micropipettes with disposable tips
- 50 µl to 300 µl adjustable multichannel micropipette with disposable tips
- Multichannel micropipette reservoir
- Beakers, flasks, cylinders necessary for preparation of reagents
- Device for delivery of wash solution (multichannel wash bottle or automatic wash system)
- Microplate shaker
- Microwell strip reader capable of reading at 450 nm (620 nm as optional reference wave length)
- Glass-distilled or deionized water
- Statistical calculator with program to perform regression analysis

7. Precautions for Use

- All chemicals should be considered as potentially hazardous. We therefore recommend that this product is handled only by those persons who have been trained in laboratory techniques and that it is used in accordance with the principles of good laboratory practice. Wear suitable protective clothing such as laboratory overalls, safety glasses and gloves. Care should be taken to avoid contact with skin or eyes. In the case of contact with skin or eyes wash immediately with water. See material safety data sheet(s) and/or safety statement(s) for specific advice.
- Reagents are intended for research use only and are not for use in diagnostic or therapeutic procedures.
- Do not mix or substitute reagents with those from other lots or other sources.
- Do not use kit reagents beyond expiration date on label.
- Do not expose kit reagents to strong light during storage or incubation.
- Do not pipette by mouth.
- Do not eat or smoke in areas where kit reagents or samples are handled.
- Avoid contact of skin or mucous membranes with kit reagents or specimens.
- Rubber or disposable latex gloves should be worn while handling kit reagents or specimens.
- Avoid contact of substrate solution with oxidizing agents and metal.
- Avoid splashing or generation of aerosols.
- In order to avoid microbial contamination or cross-contamination of reagents or specimens which may invalidate the test use disposable pipette tips and/or pipettes.
- Use clean, dedicated reagent trays for dispensing the conjugate and substrate reagent.
- Exposure to acid inactivates the conjugate.
- Glass-distilled water or deionized water must be used for reagent preparation.
- Substrate solution must be at room temperature prior to use.
- Decontaminate and dispose specimens and all potentially contaminated materials as they could contain infectious agents. The preferred method of decontamination is autoclaving for a minimum of 1 hour at 121.5°C.
- Liquid wastes not containing acid and neutralized waste may be mixed with sodium hypochlorite in volumes such that the final mixture contains 1.0% sodium hypochlorite. Allow 30 minutes for effective decontamination. Liquid waste containing acid must be neutralized prior to the addition of sodium hypochlorite.

8. Preparation of Reagents

Buffer Concentrates should be brought to room temperature and should be diluted before starting the test procedure. If crystals have formed in the **Buffer Concentrates**, warm them gently until they have completely dissolved.

8.1 Wash Buffer (1x)

Pour entire contents (50 ml) of the **Wash Buffer Concentrate** (20x) into a clean 1000 ml graduated cylinder. Bring to final volume of 1000 ml with glass-distilled or deionized water. Mix gently to avoid foaming. Transfer to a clean wash bottle and store at 2° to 25°C. Please note that Wash Buffer (1x) is stable for 30 days.

Wash Buffer (1x) may also be prepared as needed according to the following table:

Number of Strips	Wash Buffer Concentrate (20x) (ml)	Distilled Water (ml)
1 - 6	25	475
1 - 12	50	950

8.2 Assay Buffer (1x)

Pour the entire contents (5 ml) of the **Assay Buffer Concentrate** (20x) into a clean 100 ml graduated cylinder. Bring to final volume of 100 ml with distilled water. Mix gently to avoid foaming. Store at 2° to 8°C. Please note that the Assay Buffer (1x) is stable for 30 days.

Assay Buffer (1x) may also be prepared as needed according to the following table:

Number of Strips	Assay Buffer Concentrate (20x) (ml)	Distilled Water (ml)
1 - 6	2.5	47.5
1 - 12	5.0	95.0

8.3 Biotin-Conjugate

Please note that the Biotin-Conjugate should be used within 30 minutes after dilution. Make a 1:100 dilution of the concentrated **Biotin-Conjugate** solution with Assay Buffer (1x) in a clean plastic tube as needed according to the following table:

Number of Strips	Biotin-Conjugate (ml)	Assay Buffer (1x) (ml)
1 - 6	0.06	5.94
1 - 12	0.12	11.88

8.4 Streptavidin-HRP

Please note that the Streptavidin-HRP should be used within 30 minutes after dilution. Make a 1:100 dilution of the concentrated **Streptavidin-HRP** solution with Assay Buffer (1x) in a clean plastic tube as needed according to the following table:

Number of Strips	Streptavidin-HRP (ml)	Assay Buffer (1x) (ml)
1 - 6	0.06	5.94
1 - 12	0.12	11.88

8.5 Mouse TGF- β 1 Standard

Reconstitute **mouse TGF- β 1 standard** by addition of distilled water. Reconstitution volume is stated on the label of the standard vial. Swirl or mix gently to insure complete and homogeneous solubilization (concentration of reconstituted standard = 4 ng/ml). Allow the standard to reconstitute for 10-30 minutes. Mix well prior to making dilutions.

After usage remaining standard cannot be stored and has to be discarded.

Standard dilutions can be prepared directly on the microwell plate (see 10.d) or alternatively in tubes (see 8.5.1).

8.5.1 External Standard Dilution

Label 7 tubes, one for each standard point.

S1, S2, S3, S4, S5, S6, S7

Then prepare 1:2 serial dilutions for the standard curve as follows:

Pipette 225 μ l of Assay Buffer (1x) into each tube.

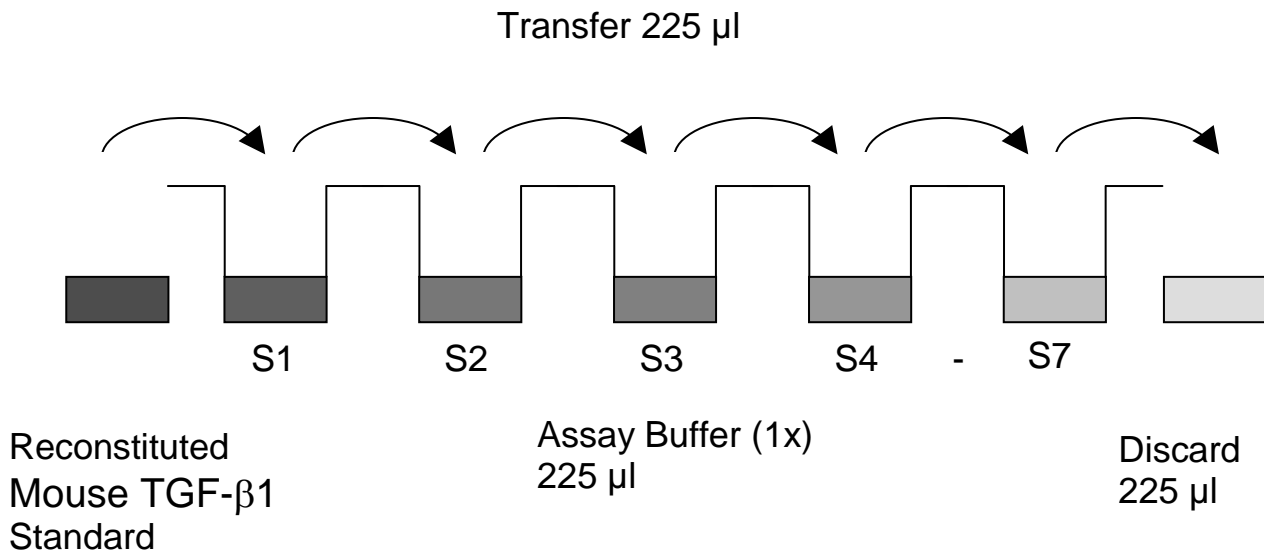
Pipette 225 μ l of diluted standard (concentration of standard = 4000 pg/ml) into the first tube, labelled S1, and mix (concentration of standard 1 = 2 ng/ml).

Pipette 225 μ l of this dilution into the second tube, labelled S2, and mix thoroughly before the next transfer.

Repeat serial dilutions 5 more times thus creating the points of the standard curve (see Figure 7).

Assay Buffer (1x) serves as blank.

Figure 7



8.6 Addition of Colour-giving Reagents: Blue-Dye, Green-Dye, Red-Dye

In order to help our customers to avoid any mistakes in pipetting, IBL-America offers a tool that helps to monitor the addition of even very small volumes of a solution to the reaction well by giving distinctive colours to each step of the ELISA procedure.

This procedure is optional, does not in any way interfere with the test results, and is designed to help the customer with the performance of the test, but can also be omitted, just following the instruction booklet.

Alternatively, the dye solutions from the stocks provided (**Blue-Dye**, **Green-Dye**, **Red-Dye**) can be added to the reagents according to the following guidelines:

1. Diluent:

Before standard dilution add the **Blue-Dye** at a dilution of 1:250 (see table below) to the appropriate diluent (1x) according to the test protocol. After addition of **Blue-Dye**, proceed according to the instruction booklet.

5 ml Assay Buffer (1x)	20 µl Blue-Dye
12 ml Assay Buffer (1x)	48 µl Blue-Dye
50 ml Assay Buffer (1x)	200 µl Blue-Dye

2. Biotin-Conjugate:

Before dilution of the concentrated Biotin-Conjugate, add the **Green-Dye** at a dilution of 1:100 (see table below) to the Assay Buffer (1x) used for the final conjugate dilution. Proceed after addition of **Green-Dye** according to the instruction booklet: Preparation of Biotin-Conjugate.

3 ml Assay Buffer (1x)	30 µl Green-Dye
6 ml Assay Buffer (1x)	60 µl Green-Dye
12 ml Assay Buffer (1x)	120 µl Green-Dye

3. Streptavidin-HRP:

Before dilution of the concentrated Streptavidin-HRP, add the **Red-Dye** at a dilution of 1:250 (see table below) to the Assay Buffer (1x) used for the final Streptavidin-HRP dilution. Proceed after addition of **Red-Dye** according to the instruction booklet: Preparation of Streptavidin-HRP.

6 ml Assay Buffer (1x)	24 µl Red-Dye
12 ml Assay Buffer (1x)	48 µl Red-Dye

9. Test Protocol

- a. Prepare your serum and plasma samples before starting the test procedure. Dilute serum and plasma samples with Assay Buffer (1x) according to the following scheme:
 20 µl sample + 920 µl Assay Buffer (1x)
 Add 30 µl 1N HCl to 940 µl prediluted sample, mix and incubate for 1 hour at room temperature.
 Neutralize by addition of 30 µl 1N NaOH.

Prepare your cell culture supernatant samples before starting the test procedure. Dilute cell culture supernatant samples with Assay Buffer (1x) according to the following scheme:
 20 µl sample + 180 µl Assay Buffer (1x)
 Add 20 µl 1N HCl to 200 µl prediluted sample, mix and incubate for 1 hour at room temperature.
 Neutralize by addition of 20 µl 1N NaOH.

Sample Matrix	Sample Volume (µl)	Assay Buffer (1x) (µl)	HCl 1N (µl)	NaOH 1N (µl)	Dilution
Serum and Plasma	20	920	30	30	1:50
Cell culture supernatant	20	180	20	20	1:12

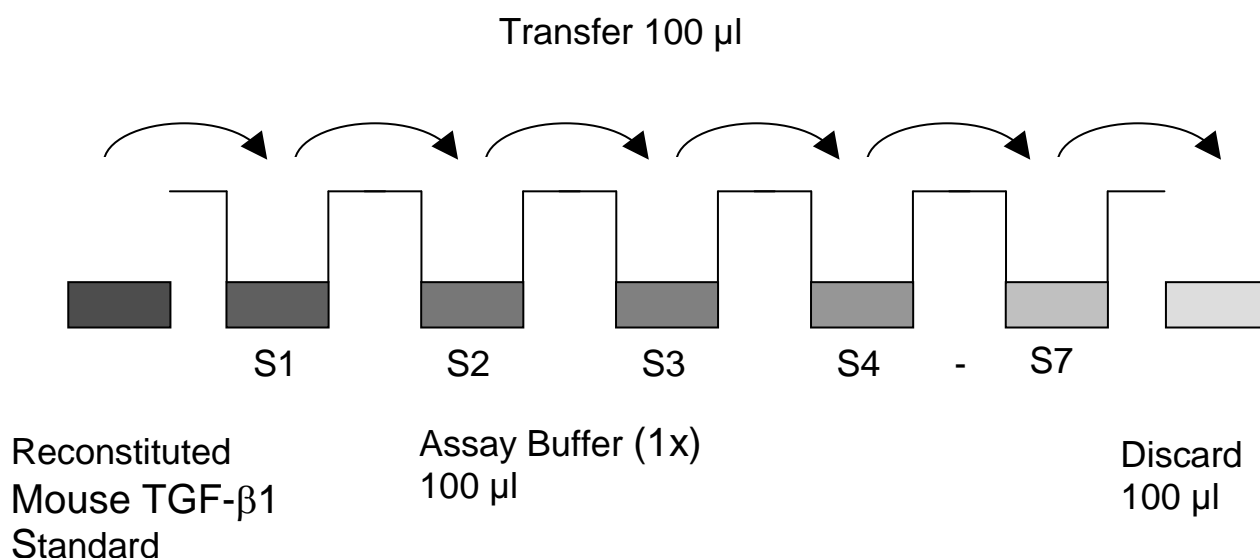
- b. Determine the number of microwell strips required to test the desired number of samples plus appropriate number of wells needed for running blanks and standards. Each sample, standard, blank and optional control sample should be assayed in duplicate. Remove extra microwell strips from holder and store in foil bag with the desiccant provided at 2°-8°C sealed tightly.
- c. Wash the microwell strips twice with approximately 400 µl **Wash Buffer** per well with thorough aspiration of microwell contents between washes. Allow the Wash Buffer to sit in the wells for about **10 – 15 seconds** before aspiration. Take care not to scratch the surface of the microwells.

After the last wash step, empty wells and tap microwell strips on absorbent pad or

paper towel to remove excess Wash Buffer. Use the microwell strips immediately after washing. Alternatively microwell strips can be placed upside down on a wet absorbent paper for not longer than 15 minutes. **Do not allow wells to dry.**

- d. **Standard dilution on the microwell plate** (Alternatively the standard dilution can be prepared in tubes – see 8.5.1):
Add 100 μ l of Assay Buffer (1x) in duplicate to all **standard wells**. Pipette 100 μ l of prepared **standard** (see Preparation of Standard 8.5, concentration = 4000.0 pg/ml) in duplicate into well A1 and A2 (see Table 1). Mix the contents of wells A1 and A2 by repeated aspiration and ejection (concentration of standard 1, S1 = 2000.0 pg/ml), and transfer 100 μ l to wells B1 and B2, respectively (see Figure 8). Take care not to scratch the inner surface of the microwells. Continue this procedure 5 times, creating two rows of mouse TGF- β 1 standard dilutions ranging from 2000.0 to 31.3 pg/ml. Discard 100 μ l of the contents from the last microwells (G1, G2) used.

Figure 8



In case of an **external standard dilution** (see 8.5.1), pipette 100 µl of these standard dilutions (S1 - S7) in the standard wells according to Table 1.

Table 1

Table depicting an example of the arrangement of blanks, standards and samples in the microwell strips:

	1	2	3	4
A	Standard 1 (2000.0 pg/ml)	Standard 1 (2000.0 pg/ml)	Sample 1	Sample 1
B	Standard 2 (1000.0 pg/ml)	Standard 2 (1000.0 pg/ml)	Sample 2	Sample 2
C	Standard 3 (500.0 pg/ml)	Standard 3 (500.0 pg/ml)	Sample 3	Sample 3
D	Standard 4 (250.0 pg/ml)	Standard 4 (250.0 pg/ml)	Sample 4	Sample 4
E	Standard 5 (125.0 pg/ml)	Standard 5 (125.0 pg/ml)	Sample 5	Sample 5
F	Standard 6 (62.5 pg/ml)	Standard 6 (62.5 pg/ml)	Sample 6	Sample 6
G	Standard 7 (31.3 pg/ml)	Standard 7 (31.3 pg/ml)	Sample 7	Sample 7
H	Blank	Blank	Sample 8	Sample 8

- e. Add 100 µl of **Assay Buffer (1x)** in duplicate to the **blank wells**.
- f. For serum and plasma samples add 90 µl of **Assay Buffer (1x)** to the **sample wells**.
For cell culture supernatant samples add 60 µl of **Assay Buffer (1x)** to the **sample wells**.
- g. For serum and plasma samples add 10 µl of each pretreated **sample** in duplicate to the **sample wells**.
For cell culture supernatant samples add 40 µl of each pretreated **sample** in duplicate to the **sample wells**.
- h. Cover with an adhesive film and incubate at room temperature (18 to 25°C) for 2 hours, on a microplate shaker set at 100 rpm. (**Shaking is absolutely necessary for an optimal test performance.**)
- i. Prepare **Biotin-Conjugate** (see Preparation of Biotin-Conjugate 8.3).
- j. Remove adhesive film and empty wells. **Wash** microwell strips 5 times according to point c. of the test protocol. Proceed immediately to the next step.

- k. Add 100 µl of **Biotin-Conjugate** to all wells.
- l. Cover with an adhesive film and incubate at room temperature (18 to 25°C) for 1 hour, on a microplate shaker set at 100 rpm. (**Shaking is absolutely necessary for an optimal test performance.**)
- m. Prepare **Streptavidin-HRP** (refer to Preparation of Streptavidin-HRP 8.4).
- n. Remove adhesive film and empty wells. **Wash** microwell strips 5 times according to point c. of the test protocol. Proceed immediately to the next step.
- o. Add 100 µl of diluted **Streptavidin-HRP** to all wells, including the blank wells.
- p. Cover with an adhesive film and incubate at room temperature (18° to 25°C) for 1 hour, on a microplate shaker set at 100 rpm. (**Shaking is absolutely necessary for an optimal test performance.**)
- q. Remove adhesive film and empty wells. **Wash** microwell strips 5 times according to point c. of the test protocol. Proceed immediately to the next step.
- r. Pipette 100 µl of **TMB Substrate Solution** to all wells.
- s. Incubate the microwell strips at room temperature (18° to 25°C) for **about 30 min.** Avoid direct exposure to intense light.

The colour development on the plate should be monitored and the substrate reaction stopped (see next point of this protocol) before positive wells are no longer properly recordable.

Determination of the ideal time period for colour development has to be done individually for each assay.

It is recommended to add the stop solution when the highest standard has developed a dark blue colour. Alternatively the colour development can be monitored by the ELISA reader at 620 nm. The substrate reaction should be stopped as soon as Standard 1 has reached an OD of 0.9 – 0.95.

- t. Stop the enzyme reaction by quickly pipetting 100 µl of **Stop Solution** into each well. It is important that the Stop Solution is spread quickly and uniformly throughout the microwells to completely inactivate the enzyme. Results must be read immediately after the Stop Solution is added or within one hour if the microwell strips are stored at 2 - 8°C in the dark.
- u. Read absorbance of each microwell on a spectro-photometer using 450 nm as the primary wave length (optionally 620 nm as the reference wave length; 610 nm to 650 nm is acceptable). Blank the plate reader according to the manufacturer's instructions by using the blank wells. Determine the absorbance of both the samples and the standards.

10. Calculation of Results

- Calculate the average absorbance values for each set of duplicate standards and samples. Duplicates should be within 20 per cent of the mean value.
- Create a standard curve by plotting the mean absorbance for each standard concentration on the ordinate against the mouse TGF- β 1 concentration on the abscissa. Draw a best fit curve through the points of the graph (a 5-parameter curve fit is recommended).
- To determine the concentration of circulating mouse TGF- β 1 for each sample, first find the mean absorbance value on the ordinate and extend a horizontal line to the standard curve. At the point of intersection, extend a vertical line to the abscissa and read the corresponding mouse TGF- β 1 concentration.
- **If instructions in this protocol have been followed serum and plasma samples have been diluted 1:500 (20 μ l sample + 920 μ l Assay Buffer (1x) + 30 μ l 1N HCl + 30 μ l 1N NaOH and 10 μ l pretreated sample + 90 μ l Assay Buffer (1x)) and cell culture supernatant samples have been diluted 1:30 (20 μ l sample + 180 μ l Assay Buffer (1x) + 20 μ l 1N HCl + 20 μ l 1N NaOH and 40 μ l pretreated sample + 60 μ l Assay Buffer (1x)), the concentration read from the standard curve must be multiplied by the dilution factor (x 500 or 30, respectively).**
- **Calculation of samples with a concentration exceeding standard 1 may result in incorrect, low mouse TGF- β 1 levels. Such samples require further external predilution according to expected mouse TGF- β 1 values with Assay Buffer (1x) in order to precisely quantitate the actual mouse TGF- β 1 level.**
- It is suggested that each testing facility establishes a control sample of known mouse TGF- β 1 concentration and runs this additional control with each assay. If the values obtained are not within the expected range of the control, the assay results may be invalid.

11. Limitations

- Since exact conditions may vary from assay to assay, a standard curve must be established for every run.
- Bacterial or fungal contamination of either screen samples or reagents or cross-contamination between reagents may cause erroneous results.
- Disposable pipette tips, flasks or glassware are preferred, reusable glassware must be washed and thoroughly rinsed of all detergents before use.
- Improper or insufficient washing at any stage of the procedure will result in either false positive or false negative results. Empty wells completely before dispensing fresh wash solution, fill with Wash Buffer as indicated for each wash cycle and do not allow wells to sit uncovered or dry for extended periods.

12. Performance Characteristics

12.1 Sensitivity

The limit of detection of mouse TGF- β 1 defined as the analyte concentration resulting in an absorbance significantly higher than that of the dilution medium (mean plus 2 standard deviations) was determined to be 9 pg/ml (mean of 6 independent assays).

12.2 Reproducibility

12.2.1 Intra-assay

Reproducibility within the assay was evaluated in 3 independent experiments. Each assay was carried out with 6 replicates of 8 serum samples containing different concentrations of mouse TGF- β 1. 2 standard curves were run on each plate. Data below show the mean mouse TGF- β 1 concentration and the coefficient of variation for each sample (see Table 2). The calculated overall intra-assay coefficient of variation was 5.8%.

Table 2

The mean mouse TGF- β 1 concentration and the coefficient of variation for each sample

Sample	Experiment	Mean Mouse TGF- β 1 Concentration (pg/ml)	Coefficient of Variation (%)
1	1	26054	5.4
	2	30028	10.2
	3	33450	2.4
2	1	20490	5.7
	2	23612	4.1
	3	26790	7.2
3	1	87597	4.8
	2	99523	5.2
	3	112954	3.7
4	1	86055	6.8
	2	92986	6.2
	3	108997	6.4
5	1	93651	7.4
	2	100729	5.1
	3	111539	4.7
6	1	60187	3.8
	2	63549	7.4
	3	71447	5.0
7	1	101169	5.6
	2	108546	3.1
	3	118865	3.1
8	1	12317	9.7
	2	10252	8.3
	3	12240	7.4

12.2.2 Inter-assay

Assay to assay reproducibility within one laboratory was evaluated in 3 independent experiments. Each assay was carried out with 6 replicates of 8 serum plasma samples containing different concentrations of mouse TGF- β 1. 2 standard curves were run on each plate. Data below show the mean mouse TGF- β 1 concentration and the coefficient of variation calculated on 18 determinations of each sample (see Table 3). The calculated overall inter-assay coefficient of variation was 10.8%.

Table 3

The mean mouse TGF- β 1 concentration and the coefficient of variation of each sample

Sample	Mean Mouse TGF- β 1 Concentration (pg/ml)	Coefficient of Variation (%)
1	29844	12.4
2	23631	13.3
3	100025	12.7
4	96013	12.3
5	101973	8.8
6	65061	8.9
7	109527	8.1
8	11603	10.1

12.3 Spike Recovery

The spike recovery was evaluated by spiking 2 levels of mouse TGF- β 1 into serum, plasma and cell culture supernatant. Recoveries were determined with 4 replicates each. The amount of endogenous mouse TGF- β 1 in unspiked samples was subtracted from the spike values.

For recovery data see Table 4.

Table 4

Sample matrix	Spike high (%)	Spike medium (%)	Spike low (%)
Serum	92	103	102
Plasma (EDTA)	93	96	105
Plasma (citrate)	96	94	105
Cell culture supernatant	124	141	131

12.4 Dilution Parallelism

Serum, plasma and cell culture supernatant samples with different levels of mouse TGF- β 1 were analysed at serial 2 fold dilutions with 4 replicates each. For recovery data see Table 5.

Table 5

Sample matrix	Recovery of Exp. Val.	
	Range (%)	Mean (%)
Serum	78 - 113	93
Plasma (EDTA)	86 - 126	105
Plasma (citrate)	105 - 115	110
Cell culture supernatant	90 - 115	106

12.5 Sample Stability

12.5.1 Freeze-Thaw Stability

Aliquots of serum samples (spiked or unspiked) were stored at -20°C and thawed 5 times, and the mouse TGF- β 1 levels determined. There was no significant loss of mouse TGF- β 1 immunoreactivity detected by freezing and thawing.

12.5.2 Storage Stability

Aliquots of serum samples (spiked or unspiked) were stored at -20°C, 2-8°C and room temperature (RT), and the mouse TGF- β 1 level determined after 24 h. There was no significant loss of mouse TGF- β 1 immunoreactivity detected during storage under above conditions.

12.6 Specificity

The assay detects both natural and recombinant mouse TGF- β 1.

The cross reactivity of TGF- β 2 and TGF- β 3, and of TNF- β , IL-8, IL-6, IL-2, TNF- α , IL-1 β , IL-4, IFN- γ , IL12p70, IL-5 and IL-10 was evaluated by spiking these proteins at physiologically relevant concentrations into serum. There was no cross reactivity detected.

13. Ordering Information

This kit is manufactured for Immuno-Biological Laboratories, Inc. (IBL-America). For ordering information, please contact:

Immuno-Biological Laboratories, Inc. (IBL-America)

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Minneapolis, MN 55432

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