VeriKine-HS™ Human IL-22 ELISA Kit
Certificate of Analysis & Protocol

Assay Range: 0.78 - 50 pg/ml
Compatibility: Serum, Plasma, Tissue Culture Media (TCM)
Assay Length: 4 hr

Catalog No: 41701-1
Lot No: 7549
Expiration: August 31, 2023
Store all components at 2-8ºC

Kit Components	Part No.	Lot No.	Quantity
Plate(s)	SMP326	K7010	1
Plate Sealers	N/A	N/A	4
Wash Solution Concentrate	SMP022-60	K6719	2 x 50 ml
Human IL-22 Standard, 10,000 pg/ml	SMP328-1	K7013	1 vial
Assay Buffer	SMP329-8	K7014	8 ml
Standard Diluent	SMP330-60	K7015	55 ml
Antibody Concentrate	SMP331-1	K7016	1 vial
HRP Conjugate Concentrate	SMP056-240	K7017	1 vial
Concentrate Diluent	SMP024-15	K6731	15 ml
HRP Diluent	ASDHRP-15	648946	15 ml
TMB Substrate Solution	KET-15	200210D02	15 ml
Stop Solution	SCY-15	62731	15 ml

Authorization

Released by: _____

Date: September 19, 2022

Visit the product page on PBL's website (https://pblassaysci.com) to view the technical supplement, including performance characterization and kit specifications.

CAUTION: Components should be handled with appropriate safety precautions and discarded properly. For further information, consult the safety data sheet (SDS).

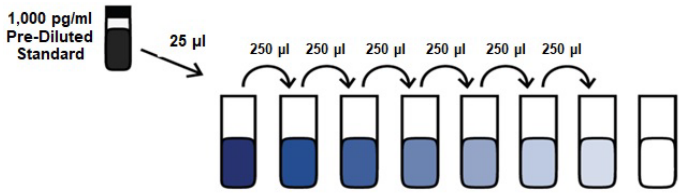
PREPARATION OF REAGENTS

Wash Buffer: Wash Solution Concentrate may contain crystals; place in a warm water bath and gently mix until completely dissolved. Prepare a 1:10 working wash solution (e.g. Add 50 ml Wash Solution Concentrate to 450 ml distilled or deionized water). Mix thoroughly before use. (**Note:** Prepare fresh Wash Buffer for each assay run.)

Human IL-22 Standard Curve Preparation:

a. Prepare a 1:10 *working stock* of Human IL-22 standard by pipetting 20 µl of IL-22 standard into 180 µl of Standard Diluent. Only use the provided Standard Diluent for this step. Mix thoroughly by gently pipetting up and down 5 times.
b. Label seven polypropylene tubes (S1 – S7).
c. Add indicated volume of Standard Diluent or Sample Matrix to each tube as indicated in Figure 1.
d. Using polypropylene tips, add 25 µl of pre-diluted IL-22 Standard working stock to S7 and mix gently. Remove indicated amount from S7 and add to S6. Repeat to complete series to S1.

Figure 1: 7-Point Standard Curve Prepared in Standard Diluent



Label	S7	S6	S5	S4	S3	S2	S1	Blank
Standard Diluent (µl)	475	250	250	250	250	250	250	250
IL-22 (pg/ml)	50	25	12.5	6.25	3.13	1.56	0.78	0

Sample Preparation: Thaw frozen sample tubes to Room Temperature (RT) (22-25ºC) in either tap water or between the fingertips. If samples require dilution, prepare using Standard Diluent. Keep on ice (2-8ºC) until step 1. Measurements in duplicate are recommended.

Antibody Concentrate: 15 minutes prior to use in step 3, dilute Antibody Concentrate in the volume of Concentrate Diluent as shown below. Keep at RT (22-25ºC).

Micro-plate Strips Used	2	4	6	8	10	12
Antibody Concentrate	5	10	15	20	25	30
Concentrate Diluent (ml)	2.0	4.0	6.0	8.0	10.0	12.0

HRP Solution: 15 minutes prior to use in step 4, dilute HRP Conjugate Concentrate in the volume of HRP Diluent as shown below. Keep at RT (22-25ºC).

Micro-plate Strips Used	2	4	6	8	10	12
HRP Conjugate Concentrate	20	40	60	80	100	120
HRP Diluent (ml)	2.0	4.0	6.0	8.0	10.0	12.0

ASSAY PROCEDURE

Bring to RT (22-25ºC)	Keep at 2-8ºC
Plate/Plate Sealers	All other components
Standard Diluent	
Assay Buffer	
Concentrate Diluent	
HRP Diluent	
TMB Substrate Solution	
Stop Solution	
Matrices/Samples	

- **Incubations:** Use plate sealers to cover the plate when directed. All incubations should be conducted in a closed chamber at 22-25ºC (RT), keeping the plate away from drafts.
- **Plate Washing**: All wells should be filled with a minimum of 300 µl of Wash Buffer. Remove plate contents by inverting and blotting the plate on lint-free absorbent paper; tap the plate dry.

1. Determine the number of microplate strips required. We recommend running both the standard and samples at least in duplicate. Remove extra microtiter strips from the frame, seal in the foil bag provided and store at 2-8ºC. Unused strips can be used in later assays.

2. Total well volume = 100 µl (Step A + Step B)
Step A: Add **50 µl** of **Assay Buffer** to every well.
Step B: Add **50 µl** of **Standard**, **Test Samples** or **Blanks** (Standard Diluent or appropriate dilution matrix) to each designated well.

Cover with Plate Sealer and shake at 600 rpm at RT for 2 hours.

After 2 hours, empty plate contents and wash wells three times.

3. Add **100 µl** of diluted **Antibody Solution** to each well. Cover with Plate Sealer and shake plate at 600 rpm at RT for 1 hour.

After 1 hour, empty plate contents and wash wells three times.

4. Add **100 µl** of diluted **HRP Solution** to each well. Cover with Plate Sealer and shake plate at 600 rpm at RT for 30 minutes.

After 30 minutes, empty plate contents and wash wells four times.

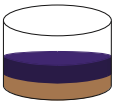
5. Add **100 µl** of **TMB Substrate Solution** to each well. Incubate **in the dark** at RT for 30 minutes. Do not use a Plate Sealer and DO NOT SHAKE during the incubation.

6. After 30 minutes, DO NOT EMPTY THE WELLS AND DO NOT WASH. Add **100 µl** of **Stop Solution** to each well.

7. Using a microplate reader, determine the absorbance at 450 nm within 2 minutes after the addition of Stop Solution.

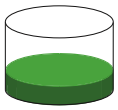
HUMAN IL-22 ELISA (41701)
ASSAY PROCEDURE – QUICK REFERENCE

Total Time: 4 hr
Note: All incubations are at Room Temperature (RT) (22-25ºC)*



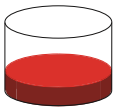
1. Add **50 µl** Assay Buffer
2. Add **50 µl** Standard, Sample or Blank
Incubate **2 hr** *(shake at 600 rpm) at RT**

Aspirate and Wash **3x**



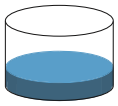
Add **100 µl** diluted Antibody Solution
Incubate **1 hr** *(shake at 600 rpm) at RT**

Aspirate and Wash **3x**

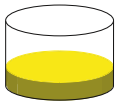


Add **100 µl** diluted HRP Solution
Incubate **30 min** *(shake at 600 rpm) at RT**

Aspirate and Wash **4x**



Add **100 µl** TMB Substrate
Incubate **30 min** *in the dark at RT**
Do not seal, shake or wash.

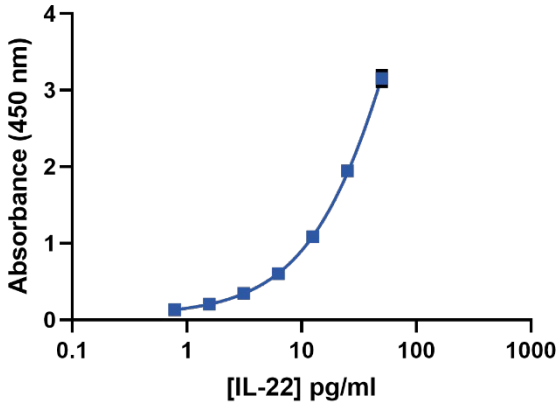


Add **100 µl** Stop Solution
Read plate within 2 min (450 nm)

CALCULATION OF RESULTS

By plotting the optical densities (OD) using a 4-parameter fit for the standard curve, the interferon titer in the samples can be determined. A 4-parameter logistic plot with $1/y^2$ weighted analysis is recommended for obtaining optimal fit of standard curve OD values. Blank ODs may be subtracted from the standards and sample ODs to eliminate background.

Figure 2: Typical Standard Curve in Standard Diluent



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