

Product datasheet

GFP Dipstick Kit ab119691

3 Images

Overview

Product name GFP Dipstick Kit

Precision

Intra-assay

Sample	n	Mean	SD	CV%
1	6			7.5%

Inter-assay

Sample	n	Mean	SD	CV%
1	3			8.3%

Sample type Cell culture extracts, Tissue Extracts

Assay type Sandwich (quantitative)

Sensitivity 50 pg/ml

Range 0.05 ng/ml - 400 ng/ml

Recovery 164 %

Sample specific recovery

Sample type	Average %	Range
Cell culture supernatant	164	133% - 200%

Notes Green fluorescence protein (GFP) is a 27 kDa protein derived from the jellyfish *Aequorea victoria*, which emits green light (emission peak at a wavelength of 509 nm) when excited by blue light (excitation peak at a wavelength of 395 nm). GFP has become an invaluable tool in cell biology research, since its intrinsic fluorescence can be visualized in living cells. GFP has been widely used as a reporter for gene expression, enabling researchers to visualize and localize GFP-tagged proteins within living cells without the need for chemical staining.

While GFP expression can sometimes be detected by fluorescence emission in cells and tissues, determination of very low levels of expression for optimization of expression is difficult and time consuming. This GFP Dipstick ELISA Kit is lateral flow immunoassay developed for an easy, rapid and sensitive detection of GFP or GFP fusion proteins in cells or tissue samples. GFP may be accurately quantified with the use of an immunochromato-reader (MS1000) by comparing the

signal from an unknown sample with that of a known recombinant GFP standard curve. The kit has a detection sensitivity limit of 50 pg/mL GFP. Each kit provides sufficient reagents to perform up to 48 assays including standard curve and GFP samples. Note, it is possible that improper folding of GFP or the presence of a fusion partner may prevent GFP binding in this kit.

Storage: Store all components at 4°C. This kit is stable for 6 months from receipt. After reconstitution the standard should be stored at -80°C. 10X blocking, dipsticks and gold-conjugated GAR may be stored at room temperature in the provided containers and out of direct sunlight.

Platform Reagents

Properties

Storage instructions Store at +4°C. Please refer to protocols.

Components	48 tests
10X Blocking Buffer	1 x 1ml
10X Detector Antibody	1 x 140µl
Dipsticks	1 x 48 tests
Extraction Buffer	1 x 25ml
GFP Microplate	2 units
GFP Standard	1 x 100ng
Wash Buffer	1 x 5ml

Images

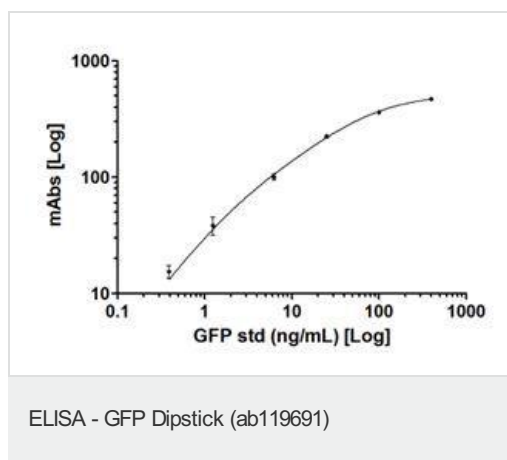
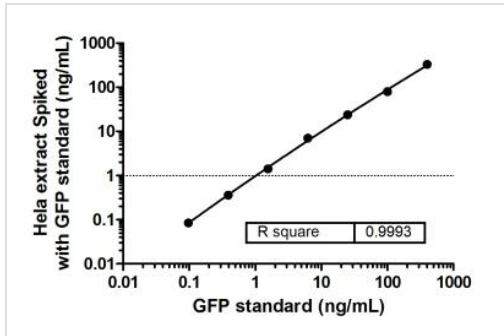
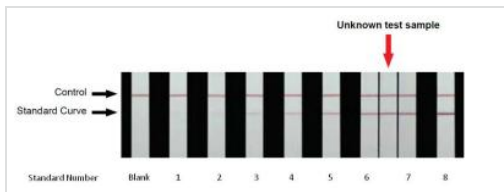


Figure 1. Example standard curve.



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Figure 2. HeLa cell extract at 1mg/mL were spiked with a titration series of GFP recombinant protein (ab98191) and the dipstick signal intensity was compared with that obtained with GFP recombinant protein diluted in extraction buffer. Results show a near 1:1 fit ($R^2 = 0.99$) and maximum recoverability of GFP signal in a protein extract milieu.



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Figure 3. Instrument-Free visual readout: The calibration curve generated with the standard protein can be made into a “visual reference card”. The test sample is then compared against the visual reference card by matching up the reporter line density of the processed dipstick in the appropriate slot. The value (or value range) can then be interpolated based on the position relative to the antigen levels of the lines immediately to the left and to the right.

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