

**Anti-PB-22, synthetic  
cannabinoid, IgG****Rabbit Polyclonal Antibody  
Cat. #1086 Lot P1121**

*LIMITATIONS: THIS PRODUCT IS FOR RESEARCH USE ONLY AND IS NOT APPROVED FOR THERAPEUTIC OR DIAGNOSTIC USE.*

**Background:**

The Tulip BioLabs, Inc. Anti-PB-22, synthetic cannabinoid, Cat. #1086, is a rabbit polyclonal IgG antibody. It has been used in a competitive ELISA format to test the presence of PB-22 metabolites and other synthetic cannabinoids. Cross-reactivity of various tested compounds are listed in Table 1, and sensitivity to detect PB-22 N-pentanoic acid analogue, a major metabolite in human urine, is shown in Figure 1.

Note: If this antibody is used in an immunoassay to detect synthetic cannabinoids, suspect test samples must be confirmed using an alternative analytical method, for example LC-MS-MS.

**Immunogen:**

PB-22 conjugated to a carrier protein.

**Supplied As:**

2 mg/ml of protein A purified rabbit IgG in phosphate buffered saline with 0.05% sodium azide preservative.

**Storage and Stability:**

Stable for 1 year from date of shipment when stored at -20 or -70°C. Stable for at least 1 month at 4°C. Avoid freeze/thaw cycles.

**Specificity and Comments:**

Recognizes the synthetic cannabinoid PB-22 N-5-hydroxy and N-pentanoic acid analogues (metabolites found in human urine) and other synthetic cannabinoid metabolites. There is significant cross-reactivity to JWH-018, JWH-250, and MAM2201 metabolites plus NNEI (MN-24)(see Table 1).

**Applications and Suggested Dilutions:**

ELISA (for 96-well plate coating use 1-3µg/mL)  
Note: This antibody is used in the Cat. #4600 PB-22 Synthetic Cannabinoid ELISA Assay kit.  
Other methods not tested.

*Please note: This information is intended as a guide. The optimal concentrations must be determined by the user.*

**Tulip BioLabs Other Related Products:**

Cat. #4600

**PB-22 Synth Cannabinoids ELISA Kit**

Cat. #8601

**PB-22 x HRP Conjugate**

Cat. #1066

**Anti-K2/Spice, synthetic cannabinoids, IgG**

Cat. #1072

**Anti-JWH-250 (K2/Spice), IgG**

Cat. #1083

**Anti-UR-144/XLR-11 Synthetic Cannabinoid, IgG**

Cat. #1087

**Anti-AKB48 Synthetic Cannabinoid, IgG**

**Original Reference:**

N/A

**Useful References:**

J.W. Huffman and D. Dai (1994) *Bioorg Med Chemistry* **4** 563

S. Dresen *et al.* (2010) *J Mass Spectrometry* **45** 760

M. Hutter *et al.* (2012) *J Mass Spectrometry* **47** 54

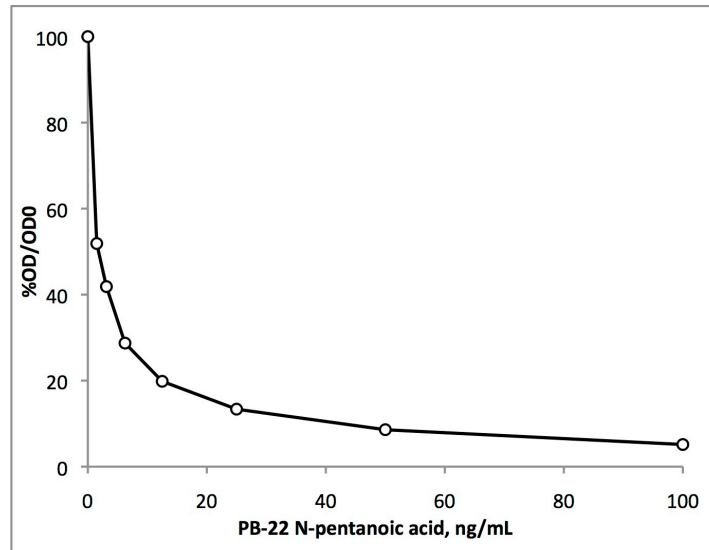
A. Wohlfarth *et al.* (2013) *Anal Chem* **85** 3730

**Table 1. Drug and Metabolite Cross-Reactivity Relative to PB-22 N-5-hydroxy metabolite**

Compound	Cross-reactivity, %
PB22 N-5-hydroxy	100.0
PB22 N-pentanoic acid	99.6
JWH250 N-pentanoic acid	53.3
JWH250 N-4-hydroxy	46.6
NNEI (MN-24)	23.1
JWH018 N-5-hydroxy	22.1
MAM2201 N-4-hydroxy	20.1
JWH018 N-pentanoic acid	13.8
ADB-FUBINACA	neg
MN25	neg
AB-PINACA N-5-hydroxy	neg
ADB-PINACA	neg
UR144 N-5-hydroxy	neg
UR144 N-pentanoic acid	neg
AKB48 N-4-hydroxy	neg
AKB48 N-pentanoic acid	neg

Note: Cross-reactivity was determined using Tulip Biolabs Cat. #4600 PB-22 Synthetic Cannabinoid ELISA Assay Kit. This ELISA incorporates microplates coated with anti-PB-22 (Cat. #1086).

**Figure 1: PB-22 Metabolite Standard Curve**



Note: PB-22 N-pentanoic acid was measured using Tulip Biolabs Cat. #4600 PB-22 Synthetic Cannabinoid ELISA Assay Kit . This ELISA incorporates microplates coated with anti-PB-22 (Cat. #1086).