Methotrexate ELISA kit

Ultra sensitive Methotrexate ELISA kit enabling detection of Methotrexate in serum, plasma, and urine in just 1.5 hours.

The Methotrexate ELISA kit is a colorimetric competitive immunoassay kit with results in 1.5 hours.

Methotrexate is a drug used in the treatment of cancer and autoimmune disease. It is designed as an anti-folate to inhibit the metabolism of folic acid. Two distinct mechanisms of action have been described for methotrexate. In cancer treatments, methotrexate competitively inhibits the dihydrofolate reductase (DHFR) by blocking folate binding. DHFR converts dihydrofolate to active tetrahydrofolate. Inhibition of DHFR results in inhibition of the synthesis of purine and pyrimidine bases effectively limiting DNA and RNA synthesis and cancer cell growth. In autoimmune disease and specifically in the treatment of rheumatoid arthritis, methotrexate appears to impact several pathways resulting in inhibition of T cell activation. The effects include suppression of T cell expression of intercellular adhesion molecules, inhibition of methyl transferase activity and increased CD95 sensitivity leading to apoptosis in active T cells.

Monitoring methotrexate levels is important to assure appropriate levels are maintained during therapy or treatment. High levels of methotrexate can lead to toxicity and potential renal failure as well as immunosuppression. Additionally, methotrexate is known to interact with a wide variety of drugs leading to additional complications. Determining the presence of methotrexate in samples from subjects in blinded research studies can assist in the interpretation of study results.

Methotrexate is established as one of the most effective and safe therapeutics for rheumatoid arthritis. The safety profile assures that methotrexate will continue to be used in new studies in combination with other new or established drugs. The same is true in its use as a cancer therapeutic. The ELISA enables monitoring levels of methotrexate in both preclinical and clinical research. The methotrexate assay is also appropriate for the detection of methotrexate contamination after its use as a selective agent for recombinant protein production in mammalian cell lines.

Citations: 2

View Online »

- Sensitive measurement of methotrexate, detecting as little as 0.087 ng/ml
- Broad dynamic range suitable for a large variety of samples
- High throughput format with results in 1.5 hours for up to 38 samples in duplicate
- Fully quantitative results that surpass semi-quantitative Western blot analysis

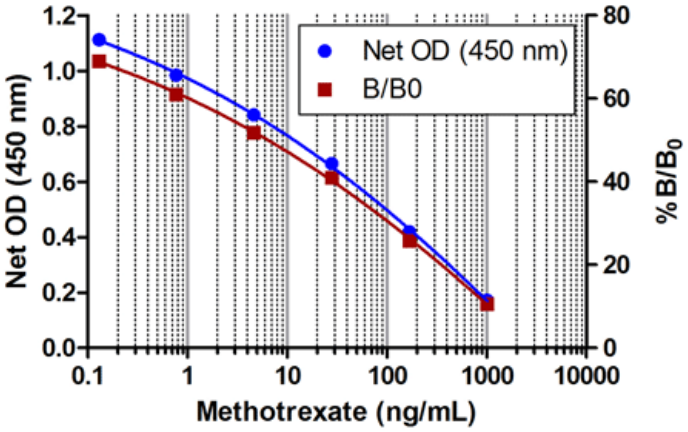
Ordering Information

Order Online »

ENZ-KIT142-0001	96 wells

Manuals, SDS & CofA

View Online »


Net OD (450 nm)
B/B0
Net OD (450 nm)
% B/B0
Methotrexate (ng/mL)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
80
60
40
20
0
0.1
1
10
100
1000
10000


Enzo
Life Sciences
Wash Buffer Concentrate
Assay Buffer 13
Methotrexate

Handling & Storage

Long Term Storage +4°C

Shipping Blue Ice

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name	MTX
Application	Colorimetric detection, ELISA
Application Notes	For the quantitative determination of methotrexate in serum, plasma and urine in human, mouse, and rat samples.
Assay Time	1.5 hours
Compatibility	This product is compatible with the **Absorbance 96 Plate Reader**.
Contents	Microtiter Plate, Assay Buffer 13, Standard, Wash Buffer Concentrate, Antibody, Antibody Diluent, Conjugate, Substrate, and Stop Solution
Sensitivity	0.087 ng/ml (0.13-1000 ng/ml)
Species Reactivity	Human, Mouse, Rat
Wavelength	450 nm

Last modified: May 29, 2024

ENZO LIFE SCIENCES, INC.
Phone: 800.942.0430
info-usa@enzolifesciences.com

European Sales Office
ENZO LIFE SCIENCES (ELS) AG
Phone: +41 61 926 8989
info-eu@enzolifesciences.com

Belgium, The Netherlands & Luxembourg
Phone: +32 3 466 0420
info-be@enzolifesciences.com

France
Phone: +33 472 440 655
info-fr@enzolifesciences.com

Germany
Phone: +49 7621 5500 526
info-de@enzolifesciences.com

UK & Ireland
Phone (UK customers): 0845 601 1488
Phone: +44 1392 825900
info-uk@enzolifesciences.com

For local distributors and detailed product information visit us online: enzo.com All product names, logos, and brands are the property of their respective owners.