

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human TDO2 in direct ELISAs.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 998604
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	<i>E. coli</i> -derived human TDO2 Leu18-Phe388 Accession # P48775
<b>Conjugate</b>	Alexa Fluor 488 Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Intracellular Staining by Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	Human A431 epidermoid carcinoma cell line fixed with paraformaldehyde and permeabilized with saponin

## PREPARATION AND STORAGE

**Shipping** The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** **Protect from light. Do not freeze.**

- 12 months from date of receipt, 2 to 8 °C as supplied.

## BACKGROUND

Tryptophan 2,3-dioxygenase (TDO2), a heme-containing cytosolic dioxygenase, forms a homo-tetrameric active molecule of approximately 190 kDa composed of 48 kDa monomers (1, 2). Human TDO2 shares 89% aa sequence identity with mouse TDO2. TDO2 is one of three proteins capable of catalyzing the first and rate-limiting step of the L-kynurenine pathway (KP): oxidative cleavage of the essential amino acid L-tryptophan to form N-formyl-kynurenine (3). TDO2 is a cytosolic protein typically localized to the liver and brain, unlike the more ubiquitously expressed indoleamine 2,3-dioxygenase (IDO), yet it is responsible for ~90% of the primary route of catabolism of tryptophan through the KP (3). TDO2 is upregulated in extrahepatic tumors (4-6) and is consequently a target in cancer immunotherapy (7). TDO2 is a therapeutic target in brain disease such as schizophrenia, Alzheimers disease, multiple sclerosis and glioma (8-11) due to its role in the regulation of levels of critical biologically active downstream KP metabolites (3). Polymorphisms in the TDO2 gene have been implicated for a role in behavioural responses and autism (12,13).

### References:

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