

Recombinant TDO2 protein

Catalog No: 31588, 31988

Lot No: 35017001

Expressed In: *E. coli*

Quantity: 50, 1000 µg

Concentration: 0.5 µg/µl

Source: Human

Buffer Contents: Recombinant TDO2 protein is supplied in 25 mM Tris-HCl pH 8.0, 300 mM NaCl, 10% glycerol, 0.5 mM TCEP.

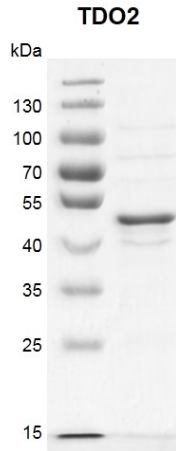
Background: TDO2 (Tryptophan 2,3-Dioxygenase, also known as TRPO, TDO, TO, TPH2) is a heme enzyme that plays a critical role in tryptophan metabolism by catalyzing the first and rate-limiting step of the kynurenine pathway. TDO2 has a broad specificity towards tryptamine and derivatives including D- and L-tryptophan, 5-hydroxytryptophan and serotonin. The excessive activation of TDO2 may also play a role in cancer through the suppression of antitumor immune responses.

Protein Details: Recombinant TDO2 was expressed in *E. coli* cells as the full length protein (accession number NP_005642.1) with an N-terminal 6×His tag. The molecular weight of the protein is 51.4 kDa.

Application Notes: This protein is useful for the study of enzyme kinetics, screening inhibitors, and selectivity profiling.

Activity Assay Conditions: 400 µM L-tryptophan was incubated with different concentrations of TDO2 protein in reaction buffer including 50 mM potassium phosphate pH 6.5, 20 mM ascorbic acid, 10 µM methylene blue and 200 µg/ml catalase for 1 hr at 37°C. The total 200 µl reaction was stopped by the addition of 40 µl 30% (w/v) trichloroacetic acid and heated at 65°C for 15 min. After cooled down to 4°C, the reaction was centrifuged at 1,125 g for 10 min. 100 µl supernatant was transferred into 96-well plate and mixed with 100 µl of 2% (w/v) p-DMAB in acetic acid. The yellow pigment derived from kynurenine was measured at 490 nm.

Storage and Guarantee: Recombinant proteins in solution are temperature sensitive and must be stored at -80°C to prevent degradation. Avoid repeated freeze/thaw cycles and keep on ice when not in storage. This product is for research use only and is not for use in diagnostic procedures. This product is guaranteed for 6 months from date of arrival.

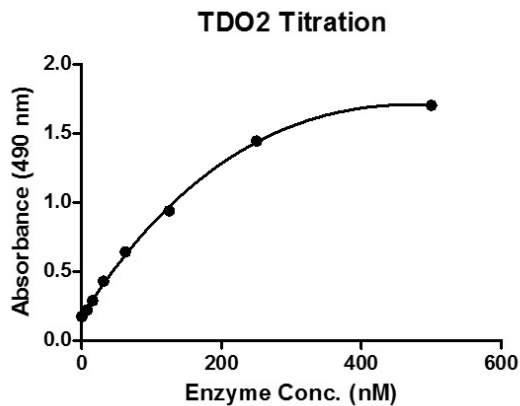


Recombinant TDO2 protein gel

12.5% SDS-PAGE Coomassie staining

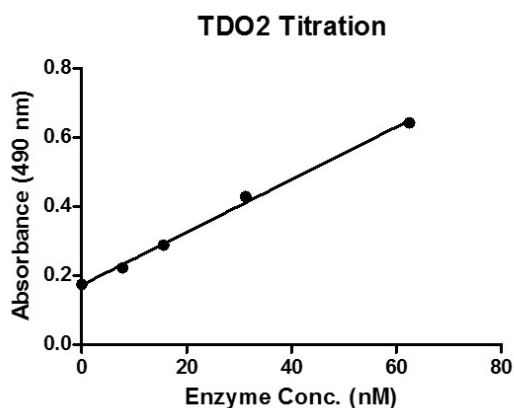
MW: 51.4 kDa

Purity: > 85%



Recombinant TDO2 protein activity assay

L-tryptophan was incubated with different concentrations of TDO2 protein in reaction buffer for 1 hr at 37°C. The reaction was stopped by addition of trichloroacetic acid and heated at 65°C for 15 min. After cooling, the reaction was centrifuged and supernatant was transferred into 96-well plate and mixed with p-DMAB in acetic acid. The yellow pigment derived from kynurenine was measured at 490 nm.



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