

Tyrosinase Active Protein | TYR active protein

Tyrosinase (human), (recombinant) (His-tag)

CATALOG #
AAA77051

HOST
E Coli

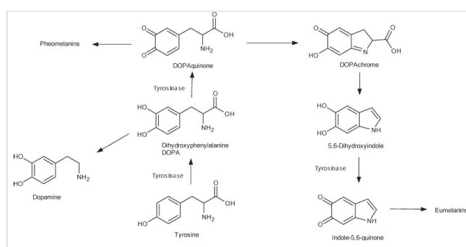
PRODUCT SYNONYMS

Tyrosinase; Tyrosinase (human); (recombinant) (His-tag); TYR active protein

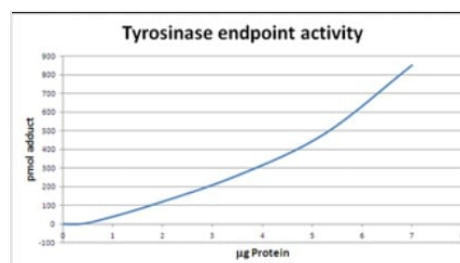
PRODUCT SPECIFICATIONS

Host	E Coli
Purity/Purification	>=85% (SDS-PAGE) Purified by multi-step chromatography
Form/Format	Liquid. In 50mM TRIS/HCl, pH8.0, 1M NaCl, 0.05% Empigen BB, and 30% glycerol
Activity	One microgram will produce greater than 90pmol of adduct at 37 degree C using 0.5mM L-Tyrosine as substrate in 50mM potassium phosphate, pH7.3, 2% dimethylformamide, 5mM MBTH (3-methyl-2-benzothiazolinone hydrazone) and monitoring formation of dopachrome-MBTH adduct at 484nm (epsilon ₄₈₄ =22,300 M ⁻¹ cm ⁻¹). Note: tyrosinases, in particular mammalian tyrosinase, are inherently inefficient enzymes, with typical changes in OD only in the deciOD range, although the reaction reaches maximal velocity quickly (typically within two minutes). In addition, its substrates and MBTH are very unstable; make stocks fresh and keep sealed in the dark until use. Lifetime and rate of enzymatic activity can be increased by the addition of CuCl to the assay buffer, but this will increase background and may complicate other redox reactions in the assay
Preparation and Storage	For long term storage, store at -80 degree C. Avoid freeze/thaw cycles Shipping: Shipped on Dry Ice

IMAGES

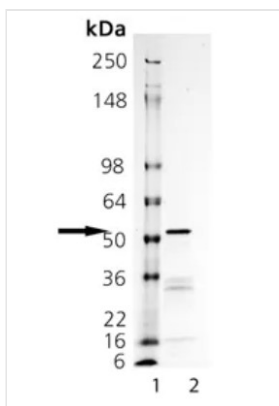


Melanin and Catecholamine Synthesis Pathways



Tyrosinase Activity

Formation of dopachrome-MBTH adduct monitoring at 484nm in a 96-well half area microwell plate with a range of enzyme loads. Maximum signal plateau was reached rapidly at 37 degree C, preventing an accurate time-dependent measurement.



SDS-PAGE

Lane 1: MW Marker, Lane 2: 2 ug Tyrosinase.

ADDITIONAL INFORMATION

Related Product Information for TYR active protein	Tyrosinase is a copper-containing enzyme that catalyzes four steps in the melanin and catecholamine synthesis pathways. Like tyrosine hydroxylase (EC 1.13.16.2), it can catalyze the formation of L-DOPA in the brain and nervous system. It oxidizes monophenols, but like catecholoxidase (EC 1.10.3.1), it can also oxidize o-diphenols to o-quinones. It is involved in cancer, Parkinson's, pigmentation diseases, Alzheimer's and obesity. Much of the research and inhibitor screening has used mushroom tyrosinase. However, mushroom tyrosinase interacts very differently with substrates and inhibitors compared to the human enzyme. In addition, commercially available mushroom tyrosinase is not always of good purity. Recombinant versions of human tyrosinase amino acids 1-345 or 1-378, also available commercially, are not functional due the lack of critical catalytic and structural residues.
Product Categories/Family for TYR active protein	Cellular Analysis; Cell Signaling

NCBI AND UNIPROT INFORMATION

NCBI GI #	4507753
NCBI GeneID	7299
NCBI Accession #	NP_000363.1
NCBI GenBank Nucleotide #	NM_000372.4
UniProt Accession #	P14679; Q15675; Q15676; Q15680; Q8TAK4; Q9BYY0; Q9BZX1
Molecular Weight	~52kDa (SDS-PAGE)
NCBI Official Full Name	tyrosinase
NCBI Official Synonym Full Names	tyrosinase
NCBI Official Symbol	TYR
NCBI Official Synonym Symbols	CMM8; OCA1A; OCA1A; SHEP3
NCBI Protein Information	tyrosinase; LB24-AB; SK29-AB; monophenol monooxygenase; oculocutaneous albinism 1A; tumor rejection antigen AB
UniProt Protein Name	Tyrosinase
UniProt Gene Name	TYR
UniProt Entry Name	TYRO_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

