Oxytocin (OT) Human Active Protein

PRODUCT OVERVIEW

Product Name	Oxytocin (OT), Active Protein
Full Product Name	Human Oxytocin
Product Gene Name	OT active protein
Product Synonym Names	OT Human; Oxytocin Human; OT; OXT; OT-NPI; Neurophysin 1; MGC126890; MGC126892
Sequence	Cys-Tyr-Il e-Gln-Asn- Cys-Pro-Le u-Gly-NH2
Form/Format	The Oxytocin was lyophilized from a concentrated (1 mg/ml) solution with no additives. Sterile Filtered White lyophilized (freeze-dried) powder.
Purity/Purification	Greater than 99.0% as determined by RP-HPLC.
Preparation and Storage	Lyophilized Oxytocin although stable at room temperature for 3 weeks, should be stored desiccated below -18 degree C. Upon reconstitution Neurophysin 1 should be stored at 4 degree C between 2-7 days and for future use below -18 degree C.For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).Please prevent freeze-thaw cycles.
Molecular Weight	12,722 Da
OMIM	167050
3D Structure	ModBase 3D Structure for P01178
Active Protein Note	Protein activity can be an ambiguous term. Please refer to the data sheet or inquire with Technical Support to determine the definition of activity for this product.
Specific Activity	1mg of Oxytocin has activity greater than 480IU.
Solubility	It is recommended to reconstitute the lyophilized Oxytocin in sterile 18M Omega -cm H2O not less than 100 ug/ml, which can then be further diluted to other aqueous solutions.
Product Categories/Family for OT active protein	Hormones; Hormones
Related Product Information for OT active protein	**Description:** Oxytocin Human Synthetic is a single, non-glycosylated, polypeptide chain containing 9 amino acids and having a molecular mass of 1007.2 Dalton. Oxytocin has a molecular formula of C43H66N12O12S2. The OT is purified by proprietary chromatographic techniques. **Introduction:** Human Oxytocin stimulates uterine smooth muscle contractions indirectly and stimulates the mammary glands to increase lactation without increasing the production of milk.
Other Notes	Small volumes of OT active protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for OT purchase	MBS142648 is an active protein targeting OT. Also known as Human Oxytocin.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for OT. It may not necessarily be applicable to this product.

NCBI GI #	4505537
NCBI GeneID	5020
NCBI Accession #	NP_000906.1

UniProt Primary Accession #	P01178
UniProt Secondary Accession #	Q3MIG0
UniProt Related Accession #	P01178
GenBank Nucleotide #	NM_000915.3
NCBI Official Full Name	oxytocin-neurophysin 1 preproprotein
NCBI Official Synonym Full Names	oxytocin/neurophysin I prepropeptide
NCBI Official Symbol	OXT
NCBI Official Synonym Symbols	OT; OT-NPI; OXT-NPI
UniProt Protein Name	Oxytocin-neurophysin 1
UniProt Synonym Protein Names	Ocytocin
Protein Family	Oxytocin
UniProt Gene Name	OXT
UniProt Synonym Gene Names	OT; OT-NPI
UniProt Entry Name	NEU1_HUMAN
NCBI Protein Information	oxytocin-neurophysin 1; neurophysin I; oxytocin, prepro- (neurophysin I); oxytocin, prepropeptide; oxytocin-neurophysin I, preproprotein
NCBI Summary for OT	This gene encodes a precursor protein that is processed to produce oxytocin and neurophysin I. Oxytocin is a posterior pituitary hormone which is synthesized as an inactive precursor in the hypothalamus along with its carrier protein neurophysin I. Together with neurophysin, it is packaged into neurosecretory vesicles and transported axonally to the nerve endings in the neurohypophysis, where it is either stored or secreted into the bloodstream. The precursor seems to be activated while it is being transported along the axon to the posterior pituitary. This hormone contracts smooth muscle during parturition and lactation. It is also involved in cognition, tolerance, adaptation and complex sexual and maternal behaviour, as well as in the regulation of water excretion and cardiovascular functions. [provided by RefSeq, Dec 2013]
UniProt Comments for OT	OXT: Neurophysin 1 specifically binds oxytocin. Belongs to the vasopressin/oxytocin family. Protein type: Secreted; Secreted, signal peptide Chromosomal Location of Human Ortholog: 20p13 Cellular Component: extracellular space; extracellular region; terminal button; secretory granule Molecular Function: oxytocin receptor binding; neurohypophyseal hormone activity Biological Process: response to peptide hormone stimulus; response to cAMP; male mating behavior; heart development; drinking behavior; response to glucocorticoid stimulus; positive regulation of female receptivity; female pregnancy; signal transduction; positive regulation of synaptic transmission; response to estradiol stimulus; elevation of cytosolic calcium ion concentration; hyperosmotic salinity response; negative regulation of blood pressure; response to electrical stimulus; response to food; grooming behavior; response to retinoic acid; maternal behavior; regulation of heart rate; eating behavior; response to amphetamine; social behavior; sleep; response to ether; response to cocaine; memory; positive regulation of ossification; response to sucrose stimulus; positive regulation of synaptogenesis; positive regulation of prostaglandin secretion; sperm ejaculation; response to activity; regulation of sensory perception of pain; response to progesterone stimulus; positive regulation of blood pressure
Research Articles on OT	**1.** Report for the first time of a significant genetic association of OXT and AVP with schizophrenia
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