

Urotensin II (Ull) and Urotensin Receptor (GPR14)

Urotensins are neuropeptide secreted from the urophysis in the caudal neurosecretory system of the fishes. Two bioactive Urotensins, U1 and Ull have been cloned from various species including mammals. U1 is 41 aa peptide, which showed prolonged hypotensive effects in mammals. It is structurally similar to mammalian corticotropin-releasing factor. Ull is a vasoactive 'somatostatin-like' 12-aa cyclic peptide with similarity to somatostatin-14. Human Ull is composed of only 11 aa residues, while fish and frog Ull possess 12 and 13 aa, respectively. The cyclic region of the Ull, which is responsible for the biological activity of the peptide, has been fully conserved from fish to human. Ull expression has been observed predominantly in the spinal cord.

Recently, an orphan human G-protein coupled receptor homologous to rat GPR14 has been identified as the receptor for Ull (2). **GPR14** is expressed predominantly in cardiovascular tissue. Human Ull effectively stimulated total peripheral resistance in anesthetized non-human primates, a response associated with profound cardiac contractile dysfunction. GPR14 (rat 386 aa and human 389 aa, ~75% homology) contains 7 transmembrane domains. It is most closely related to somatostatin receptor4. GPR14 is mostly expressed in the heart and pancreas, while low expression was detected in the brain.

Antibody Ordering Information (http://4adi.com/commerce/catalog/spcategory.jsp?category_id=2624)

Most Product data sheets are posted at the website contact ADI for information.

Items	Peptide/ Antigen location	Ab host	Expected Ab Cross reactivity	Antiserum Cat #	Aff. Pure IgG Cat #	Control peptide Cat #
Urotensin II	R, 14 aa, ~CT	Rb	R, M, H	UT21-S	UT21-A	UT21-P
GPR14	R, 18 aa, ~CT	Rb	R	GPR14-S	GPR14-A	GPR14-P

Rb=Rabbit; **Ch**=Chicken; **m**=mouse; **r**=rat; **h**=human; **b**=bovine; ~CT/NT=near C or N-terminus. ***Expected antibody cross reactivity** information is based upon high (>70%) sequence conservation of antigenic/control peptides in various species. It does not necessarily mean that ab-crossreactivity has been experimentally verified.

Significant antigenic similarity exist but antibody cross reactivity is questionable

Control peptide (#*****-P) is suitable for ELISA and Antibody neutralization to show antibody specificity in ELISA/Western/IHC etc. It is a small peptide of about 2-3 Kda and it cannot be used as protein to run on Western. **Protein controls**, if available, are listed as #*****-C. **Unpurified antiserum** (#*****-S) can be used for ELISA/Western but the **affinity purified antibodies** (#*****-A) will provide cleaner results in ELISA, Western, and IHC/IF.

List of Publication Using Urotensin Antibodies_130905P

This is a list of publications where ADI antibodies were referenced in peer reviewed journals. Cat# of the antibodies has been provided and if given in the publication and what techniques the antibodies are used (Western, IHC, IP etc). ADI may have some of the publications on file. If you have used our antibodies not listed here, please contact ADI and perhaps get some discount on the purchase of the antibodies.

ADI Product Used	Authors	Year of Pub	Journal	Western	IHC	IP	Comments
GPR14/urotensin 2 Rec Ab#GPR14-A	Gong H	2004	J Appl Physiol, 97, 2228-2235	WB		IF	rat heart

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