Tommaso Costa

List of Publications by Year
in descending order

113 papers	4,851 citations	136740 32 h-index	98622 67 g-index
114 all docs	114 docs citations	114 times ranked	3222 citing authors

#	Article	IF	Citations
1	Constitutive activity of receptors coupled to guanine nucleotide regulatory proteins. Trends in Pharmacological Sciences, 1993, 14, 303-307.	4.0	756
2	Antagonists with negative intrinsic activity at delta opioid receptors coupled to GTP-binding proteins.. Proceedings of the National Academy of Sciences of the United States of America, 1989, 86, 7321-7325.	3.3	490
3	Allosteric nanobodies reveal the dynamic range and diverse mechanisms of G-protein-coupled receptor activation. Nature, 2016, 535, 448-452.	13.7	290
4	Is the benzodiazepine receptor coupled to a chloride anion channel?. Nature, 1979, 277, 315-317.	13.7	209
5	The activation process of the Â1B-adrenergic receptor: Potential role of protonation and hydrophobicity of a highly conserved aspartate. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 808-813.	3.3	207
6	Drug efficacy at guanine nucleotide-binding regulatory protein-linked receptors: thermodynamic interpretation of negative antagonism and of receptor activity in the absence of ligand. Molecular Pharmacology, 1992, 41, 549-60.	1.0	175
7	Dimeric tetrapeptide enkephalins display extraordinary selectivity for the Î´ opiate receptor. Nature, 1982, 297, 333-335.	13.7	114
8	Historical review: Negative efficacy and the constitutive activity of G-protein-coupled receptors. Trends in Pharmacological Sciences, 2005, 26, 618-624.	4.0	114
9	Divergent Transducer-specific Molecular Efficacies Generate Biased Agonism at a G Protein-coupled Receptor (GPCR). Journal of Biological Chemistry, 2014, 289, 14211-14224.	1.6	105
10	Opiate receptor binding sites in human spinal cord. Brain Research, 1983, 267, 392-396.	1.1	99
11	Agonist Efficacy and Allosteric Models of Receptor Action. Annals of the New York Academy of Sciences, 1997, 812, 98-115.	1.8	96
12	Thrombin is a regulator of astrocytic endothelin-1. Brain Research, 1993, 600, 201-207.	1.1	94
13	Morphine-like Opiates Selectively Antagonize Receptor-Arrestin Interactions. Journal of Biological Chemistry, 2010, 285, 12522-12535.	1.6	93
14	Dehydro-enkephalins. IV. Discriminative recognition of delta and mu opiate receptors by enkephalin analogs. Biochemical and Biophysical Research Communications, 1982, 104, 583-590.	1.0	85
15	Direct modulation of voltage-dependent calcium channels by muscarinic activation of a pertussis toxin-sensitive G-protein in hippocampal neurons. Pflugers Archiv European Journal of Physiology, 1989, 415, 255-261.	1.3	84
16	Highly Potent Nociceptin Analog Containing the Arg-Lys Triple Repeat. Biochemical and Biophysical Research Communications, 2000, 278, 493-498.	1.0	78
17	H1-Histaminergic activation stimulates inositol-1-phosphate accumulation in chromaffin cells. Biochemical and Biophysical Research Communications, 1986, 135, 566-573.	1.0	70
18	Systematic errors in detecting biased agonism: Analysis of current methods and development of a new model-free approach. Scientific Reports, 2017, 7, 44247.	1.6	62

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19	Functional complementation of high-efficiency resonance energy transfer: a new tool for the study of protein binding interactions in living cells. Biochemical Journal, 2008, 409, 251-261.	1.7	54
20	A very high affinity opioid binding site in rat brain: Demonstration by computer modeling. Biochemical and Biophysical Research Communications, 1984, 122, 265-269.	1.0	51
21	Pharmacological characterization of cebranopadol a novel analgesic acting as mixed nociceptin/orphanin FQ and opioid receptor agonist. Pharmacology Research and Perspectives, 2016, 4, e00247.	1.1	51
22	Pertussis toxin abolishes the antinociception mediated by opioid receptors in rat spinal cord. European Journal of Pharmacology, 1987, 144, 91-95.	1.7	47
23	Promiscuous Coupling at Receptor-GÎ± Fusion Proteins. Journal of Biological Chemistry, 2003, 278, 15778-15788.	1.6	46
24	Receptor binding and biological activity of bivalent enkephalins. Biochemical Pharmacology, 1985, 34, 25-30.	2.0	42
25	â–½EPhe4-enkephalin analogs Delta receptors in rat brain are different from those in mouse vas deferens. FEBS Letters, 1987, 222, 71-74.	1.3	41
26	Interferon-? and lipopolysaccharide reduce cAMP responses in cultured glial cells: Reversal by a type IV phosphodiesterase inhibitor. Glia, 1995, 14, 94-100.	2.5	41
27	Synthesis and biological activity of Î”Phe4â€enkephalins*. International Journal of Peptide and Protein Research, 1983, 22, 489-494.	0.1	39
28	Pertussis toxin decreases opiate receptor binding and adenylate inhibition in a neuroblastoma x glioma hybrid cell line. Life Sciences, 1983, 33, 219-222.	2.0	37
29	Enhancement of Thrombin Receptor Activation by Thrombin Receptor-Derived Heptapeptide with para-Fluorophenylalanine in Place of Phenylalanine. Biochemical and Biophysical Research Communications, 1993, 193, 694-699.	1.0	37
30	What is biased efficacy? Defining the relationship between intrinsic efficacy and free energy coupling. Trends in Pharmacological Sciences, 2014, 35, 639-647.	4.0	37
31	Dehydro-enkephalins: Receptor binding activity of unsaturated analogs of Leu5 -enkephalin. FEBS Letters, 1981, 133, 269-271.	1.3	34
32	â€œInduced-Fitâ€•Mechanism for Catecholamine Binding to the Î²2-Adrenergic Receptor. Molecular Pharmacology, 2004, 66, 356-363.	1.0	33
33	Synthesis and receptor binding affinity of both Eâ€and Zâ€dehydroâ€phenylaline⁴ enkephalins*. International Journal of Peptide and Protein Research, 1986, 27, 522-529.	0.1	33
34	Opioid receptor desensitization in NG 108-15 cells. Biochemical Pharmacology, 1987, 36, 2889-2897.	2.0	32
35	Cell Contact-dependent Functional Selectivity of Î²2-Adrenergic Receptor Ligands in Stimulating cAMP Accumulation and Extracellular Signal-regulated Kinase Phosphorylation. Journal of Biological Chemistry, 2012, 287, 6362-6374.	1.6	31
36	Where have all the active receptor states gone?. Nature Chemical Biology, 2012, 8, 674-677.	3.9	30

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37	A highly selective ligand for brain Î´ opiate receptors, a â–¿ E Phe4 -enkephalin analog, suppresses Î¼ receptor-mediated thermal analgesia by morphine. FEBS Letters, 1988, 233, 289-293.	1.3	29
38	Dimeric pentapeptide enkephalin: A novel probe of delta opiate receptors. Life Sciences, 1982, 31, 1625-1632.	2.0	28
39	Divergent agonist selectivity in activating Î²1- and Î²2-adrenoceptors for G-protein and arrestin coupling. Biochemical Journal, 2011, 438, 191-202.	1.7	28
40	Importance of the stereo-orientation of aromatic groups in enkephalins to opiate receptor recognition. Biochemical and Biophysical Research Communications, 1984, 121, 966-972.	1.0	27
41	Cholera toxin ADP-ribosylates the receptor-coupled form of pertussis toxin-sensitive G-proteins. Biochemical and Biophysical Research Communications, 1989, 165, 554-560.	1.0	27
42	Mutations inducing divergent shifts of constitutive activity reveal different modes of binding among catecholamine analogues to the Î²2 -adrenergic receptor. British Journal of Pharmacology, 2002, 135, 1715-1722.	2.7	27
43	New red-shifted coelenterazine analogues with an extended electronic conjugation. Tetrahedron Letters, 2012, 53, 5114-5118.	0.7	27
44	Uncoupling of receptors is essential for opiate-induced desensitization (tolerance) in neuroblastoma x glioma hybrid cells NG 108-15. Life Sciences, 1983, 33, 341-344.	2.0	26
45	Î´ and Î¼ opiate receptor probes: fluorescent enkephalins with high receptor affinity and specificity. FEBS Letters, 1985, 193, 35-38.	1.3	26
46	Increased affinity and selectivity of enkephalin tripeptide (Tyr-D-Ala-Gly) dimers. European Journal of Pharmacology, 1985, 111, 257-261.	1.7	24
47	Differential expression of Î±-subunits of G-proteins in human neuroblastoma-derived cell clones. FEBS Letters, 1987, 224, 43-48.	1.3	24
48	Ligands Raise the Constraint That Limits Constitutive Activation in G Protein-coupled Opioid Receptors. Journal of Biological Chemistry, 2013, 288, 23964-23978.	1.6	22
49	Opioid antinociception and positive reinforcement are mediated by different types of opioid receptors. Life Sciences, 1983, 33, 1549-1559.	2.0	20
50	The Epithelial Phenotype of Human Neuroblastoma Cells Expresses Bradykinin, Endothelin, and Angiotensin II Receptors That Stimulate Phosphoinositide Hydrolysis. Journal of Neurochemistry, 1992, 58, 46-56.	2.1	20
51	A Mutation Changes Ligand Selectivity and Transmembrane Signaling Preference of the Neurokinin-1 Receptor. Journal of Biological Chemistry, 1997, 272, 7646-7655.	1.6	20
52	Structural requirements of nociceptin antagonist Ac-RYYRIK-NH2 for receptor binding. Journal of Peptide Science, 2002, 8, 561-569.	0.8	20
53	Sodium regulation of opioid agonist binding is potentiated by pertussis toxin. Biochemical and Biophysical Research Communications, 1984, 123, 1107-1115.	1.0	19
54	Allosteric Coupling and Conformational Fluctuations in Proteins. Current Protein and Peptide Science, 2009, 10, 110-115.	0.7	19

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55	Unique Positive Cooperativity Between the Î²-Arrestinâ€“Biased Î²-Blocker Carvedilol and a Small Molecule Positive Allosteric Modulator of the Î²2-Adrenergic Receptor. Molecular Pharmacology, 2021, 100, 513-525.	1.0	18
56	Target size analysis of opioid receptors. No difference between receptor types, but discrimination between two receptor states. FEBS Journal, 1986, 155, 621-630.	0.2	17
57	Designed modification of partial agonist of ORL1 nociceptin receptor for conversion into highly potent antagonist. Bioorganic and Medicinal Chemistry, 2008, 16, 2635-2644.	1.4	16
58	Constitutively Active G Protein-Coupled Receptor Mutants: Implications on Receptor Function and Drug Action. Assay and Drug Development Technologies, 2003, 1, 311-316.	0.6	15
59	Cystamineâ€enkephalin dimer. International Journal of Peptide and Protein Research, 1986, 27, 153-159.	0.1	15
60	Pharmacological characterization of tachykinin tetrabranched derivatives. British Journal of Pharmacology, 2014, 171, 4125-4137.	2.7	15
61	Synthesis and structureâ€“activity relationship studies in serotonin 5-HT4 receptor ligands based on a benzo[de][2,6]naphthridine scaffold. European Journal of Medicinal Chemistry, 2014, 82, 36-46.	2.6	15
62	Antisera against the 3â€“17 sequence of rat GÎ±i recognize only a 40 kDa G-protein in brain. Biochemical and Biophysical Research Communications, 1987, 148, 838-848.	1.0	14
63	SELECTIVE ENHANCEMENT BY SERUM FACTORS OF CYCLIC AMP ACCUMULATION IN RAT MICROGLIAL CULTURES**This is one of eight original papers on the subject â€œmicrogliaâ€• Dr Peter Gebicke-Haerter (Dept. Psychiatry, University of Frieburgh, Germany) acted as organiser and executive editor in the refereeing of these articles.. Neurochemistry International, 1996, 29, 89-96.	1.9	14
64	Fine spatial assembly for construction of the phenol-binding pocket to capture bisphenol A in the human nuclear receptor estrogen-related receptor Â. Journal of Biochemistry, 2012, 151, 403-415.	0.9	14
65	Different Structural Requirements for the Constitutive and the Agonist-induced Activities of the Î²2-Adrenergic Receptor. Journal of Biological Chemistry, 2005, 280, 23464-23474.	1.6	13
66	The molecular size of multiple opiate receptors. Naunyn-Schmiedeberg's Archives of Pharmacology, 1983, 324, 160-162.	1.4	12
67	Desensitization of opioid-stimulated GTPase in neuroblastoma Ã— glioma hybrid cells. Biochemical and Biophysical Research Communications, 1985, 128, 1342-1349.	1.0	12
68	Tyr1-substituted and fluorescent Pya1-enkephalins bind strongly and selectively to Î¼ and Î´ opiate receptors. Biochemical and Biophysical Research Communications, 1986, 136, 1170-1176.	1.0	12
69	Differential Roles of Two Consecutive Phenylalanine Residues in Thrombin Receptor-Tethered Ligand Peptides (SFFLRNP) in Thrombin Receptor Activation. Biochemical and Biophysical Research Communications, 1994, 203, 366-372.	1.0	12
70	Exploration of Universal Cysteines in the Binding Sites of Three Opioid Receptor Subtypes by Disulfide-Bonding Affinity Labeling with Chemically Activated Thiol-Containing Dynorphin A Analogs. Journal of Biochemistry, 1999, 126, 254-259.	0.9	12
71	Synthesis, receptor binding activity and fluorescence property of fluorescent enkephalin analogs containing Lâ€1â€pyrenylalanine. International Journal of Peptide and Protein Research, 1987, 30, 605-612.	0.1	12
72	Conceptual and experimental issues in biased agonism. Cellular Signalling, 2021, 82, 109955.	1.7	12

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73	Differential effects of GTP and cations on binding of labeled dimeric and monomeric enkephalins to neuroblastoma-glioma cell delta opiate receptors. Biochemical and Biophysical Research Communications, 1982, 108, 406-413.	1.0	11
74	Increased affinity of dimeric enkephalins is not dependent on receptor density. Neuropeptides, 1985, 6, 167-174.	0.9	11
75	Guanine nucleotide-mediated inhibition of opioid agonist binding. Biochemical Pharmacology, 1989, 38, 1931-1939.	2.0	11
76	Enzymatic Degradation of Gtp and its â€˜Stableâ€™ Analogues Produce Apparent Isomerization of Opioid Receptors. Journal of Receptors and Signal Transduction, 1989, 9, 43-64.	1.2	10
77	Cholera toxin differentially decreases membrane levels of alpha and beta subunits of G proteins in NG108-15 cells. FEBS Journal, 1990, 188, 567-576.	0.2	10
78	Gain-of-function mutations of the V2 vasopressin receptor in nephrogenic syndrome of inappropriate antidiuresis (NSIAD): a cell-based assay to assess constitutive water reabsorption. Pflugers Archiv European Journal of Physiology, 2019, 471, 1291-1304.	1.3	10
79	Serotoninergic System in Scrapie-Infected Hamsters. Journal of Neurochemistry, 1985, 44, 862-868.	2.1	9
80	Opioid Receptors of Neuroblastoma Cells Are in Two Domains of the Plasma Membrane that Differ in Content of G Proteins. Journal of Neurochemistry, 1989, 52, 619-626.	2.1	9
81	Structural Essentials of Ser-1 in Tethered Peptide Ligand of Human Thrombin Receptor for Phosphoinositide Hydrolysis. Bulletin of the Chemical Society of Japan, 1994, 67, 1659-1663.	2.0	9
82	The Role of Arginine in Thrombin Receptor Tethered-Ligand Peptide in Intramolecular Receptor Binding and Self-Activation. Bulletin of the Chemical Society of Japan, 1998, 71, 1661-1665.	2.0	9
83	Different Roles of Two Consecutive Leucine Residues in a Receptor-Tethered Ligand Peptide (SFLLRNP) in Thrombin Receptor Activation. Bulletin of the Chemical Society of Japan, 1995, 68, 2695-2698.	2.0	8
84	Synergistic effect of basic residues at positions 14â€“15 of nociceptin on binding affinity and receptor activation. Bioorganic and Medicinal Chemistry, 2008, 16, 9261-9267.	1.4	8
85	Non-Gonadotropin-Releasing Hormone-Mediated Transcription and Secretion of Large Human Glycoprotein Hormone Î±-Subunit in Human Embryonic Kidney-293 Cells. Endocrinology, 2008, 149, 1144-1154.	1.4	8
86	Differential Sensitivity of Basal and Opioid-Stimulated Low KmGTPase to Guanine Nucleotide Analogs. Journal of Neurochemistry, 1986, 47, 1361-1369.	2.1	7
87	Distribution of the Î±-subunit of the Guanine Nucleotide-binding Protein G_{i2}and its Comparison to GÎ±_o. Journal of Receptors and Signal Transduction, 1989, 9, 313-329.	1.2	7
88	Design and Synthesis of Highly Specific and Selective Enkephalin Analog Containing S-Npys-Cysteine for Î´ Opioid Receptors. Chemistry Letters, 1992, 21, 1259-1262.	0.7	7
89	Thrombin is the major serum factor stimulating phosphoinositide turnover, but not DNA synthesis in human neuroblastoma SH-EP cells. European Journal of Pharmacology, 1992, 225, 299-303.	2.7	7
90	Synthesis and receptor binding characteristics of [<scp>d</scp>â€Ala², cysteamine⁵]enkephalin, a thiolâ€containing probe for structural elements of opiate receptors. International Journal of Peptide and Protein Research, 1988, 32, 41-46.	0.1	7

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91	Is the benzodiazepine receptor coupled to a chloride anion channel? (reply). Nature, 1979, 280, 173-174.	13.7	6
92	Selected opioids and responding for intracranial reinforcement. Neuropeptides, 1985, 5, 331-334.	0.9	6
93	Effects of sodium and GTP on the binding kinetics of [3H]diprenorphine in NG 108-15 cell membranes. Naunyn-Schmiedeberg's Archives of Pharmacology, 1986, 334, 444-451.	1.4	6
94	Dimeric Pentapeptide and Tetrapeptide Enkephalins: New Tools for the Study of Delta Opioid Receptors. Journal of Receptors and Signal Transduction, 1983, 3, 21-33.	1.2	5
95	Discriminatory synergistic effect of Trp-substitutions in superagonist [(Arg/Lys)14, (Arg/Lys)15]nociceptin on ORL1 receptor binding and activation. Bioorganic and Medicinal Chemistry, 2009, 17, 5683-5687.	1.4	5
96	Vasopressin receptor 2 mutations in the nephrogenic syndrome of inappropriate antidiuresis show different mechanisms of constitutive activation for G protein coupled receptors. Scientific Reports, 2020, 10, 9111.	1.6	5
97	Enkephalin dimers: Regulation of cyclic AMP levels in NG108-15 cells. Life Sciences, 1983, 32, 511-516.	2.0	4
98	Interaction of dimeric and monomeric enkephalins with NG108-15 hybrid cells. Neurochemical Research, 1986, 11, 839-850.	1.6	4
99	Spare interactions of highly potent [Arg14,Lys15]nociceptin for cooperative induction of ORL1 receptor activation. Bioorganic and Medicinal Chemistry, 2009, 17, 7904-7908.	1.4	4
100	Specific affinityâ€labeling of the nociceptin ORL1 receptor using a thiolâ€activated Cys(Npys)â€containing peptide ligand. Biopolymers, 2016, 106, 460-469.	1.2	4
101	Multivalent ligands for the serotonin 5-HT₄ receptor. MedChemComm, 2017, 8, 647-651.	3.5	4
102	Direct evidence of edge-to-face CH/Ï€ interaction for PAR-1 thrombin receptor activation. Bioorganic and Medicinal Chemistry, 2021, 51, 116498.	1.4	4
103	Binding characteristics of a series of dimeric tripeptide enkephalins for Î´ opiate receptors in rat brain and NG108-15 cells. Journal of Molecular Recognition, 1989, 2, 127-131.	1.1	3
104	2-Substitutedgem-Diamines Derived from Amino Acid Amides. Their Applications to Cross-linking in Peptide Dimerization and Conjugation of Dimer to Affinity Matrix. Chemistry Letters, 1989, 18, 1821-1824.	0.7	3
105	Receptor Interactions of Synthetic Morphiceptin Analogs Containing Phenylalanine Homologs in Position 4. Bulletin of the Chemical Society of Japan, 1992, 65, 1052-1056.	2.0	2
106	A Tetrameric Enkephalin Analog for the Putative Multivalent Interaction with Opioid Receptors. Bulletin of the Chemical Society of Japan, 1995, 68, 3161-3167.	2.0	2
107	Tritium-labelled isovaleryl-RYYRIK-NH2 as potential antagonist probe for ORL1 nociceptin receptor. Bioorganic and Medicinal Chemistry, 2014, 22, 5902-5909.	1.4	2
108	Opioid Activities of Morphiceptin Analogs Derived from Human Î²-Casein. Bulletin of the Chemical Society of Japan, 1990, 63, 1753-1757.	2.0	1

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109	Enkephalin Alkylamides As Dimeric Probes for Bivalent Interaction with .DELTA. Opioid Receptors.. Bulletin of the Chemical Society of Japan, 1993, 66, 258-262.	2.0	1
110	Different mechanisms of negative efficacy. Distinguishing inverse agonists from negative antagonists. International Congress Series, 2003, 1249, 1-13.	0.2	1
111	Thiol-containing Enkephalins for Exploration of the Essential Thiol Group in Opiate Receptors. Agricultural and Biological Chemistry, 1987, 51, 2013-2014.	0.3	0
112	Discrimination of a novel type of rat brain Î´ opioid receptors by enkephalin analog containing structurally constrained cyclopropylphenylalanine (âˆ‡Phe). IUBMB Life, 1997, 42, 1227-1233.	1.5	0
113	Receptor Binding Site of Arg-Lys Triple Repeat in Nociceptin Superagonist. , 2001, , 919-920.		0