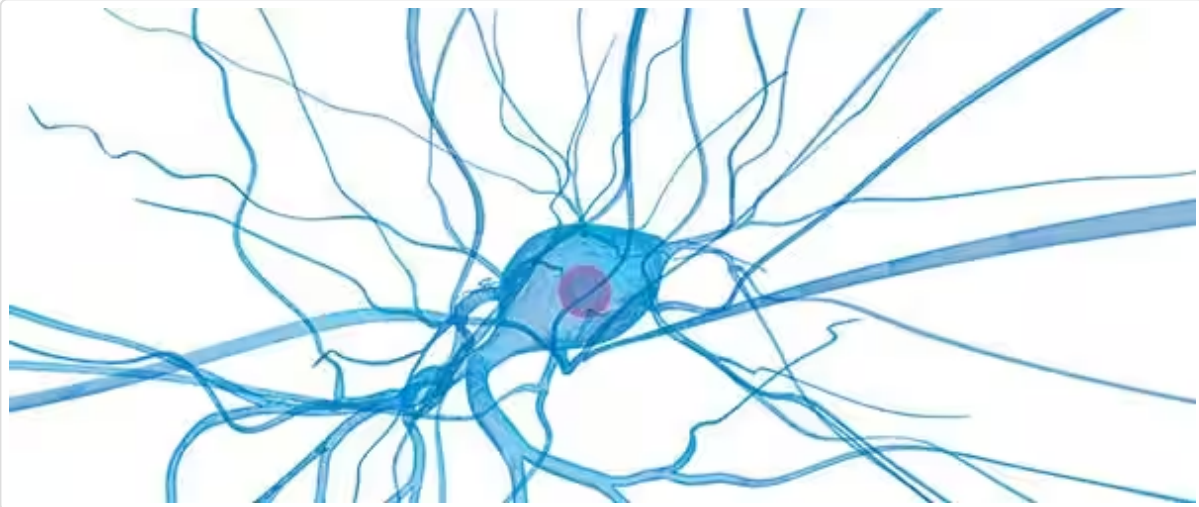
Signal Transduction



Signal transduction involves biological processes that allow cells to recognize and respond to changes in their environment. Cell receptors can be activated by binding certain extracellular ligands. These binding events trigger a signaling cascade that allows the cell to respond appropriately to the stimulus. Cells may respond to environmental changes by modifying protein and enzyme activity, metabolism or gene expression. Signal transduction is often complex, involving many different protein receptors, enzymes, and secondary messenger molecules such as cyclic nucleotides (cAMP and cGMP), calcium, and lipids. The study of signal transduction pathways involves many high purity and specific reagents including inhibitors, antagonists and agonists.

Signal Transduction Reagents

Signal transduction involves biological processes that allow cells to recognize and respond to changes in their environment. Cell receptors can be activated by binding certain extracellular ligands. These binding events trigger a signaling cascade that allows the cell to respond appropriately to the stimulus. Cells may respond to environmental changes by modifying protein and enzyme activity, metabolism or gene expression. Signal transduction is often complex, involving many different protein receptors, enzymes, and secondary messenger molecules such as cyclic nucleotides (cAMP and cGMP), calcium, and lipids. Alfa Aesar provides a range of signal transduction reagents that target various cell signaling pathways.

	J64865	1,1'-Azobis(N,N-dimethylformamide), 95%
	J62097	1-(1-Naphthyl)piperazine hydrochloride
	J67274	(±)13-Hydroxyoctadeca-9Z,11E-dienoic acid, 98%, 0.01% in ethanol
	J62250	1H-[1,2,4]Oxadiazolo[4,3-a]-quinoxalin-1-one, 98+%
	L13597	1-n-Hexyltheobromine, 98+%
	J67170	1-O-Hexadecyl-2-N-methylcarbamyl-sn-glycero-3-phosphocholine, 98%
	J67083	1-O-Palmitoyl-2-O-acetyl-sn-glycero-3-phosphocholine, 99%
	B23731	1-Pyrrolidinecarbodithioic acid ammonium salt, 98%
	A13094	2-Mercapto-1-methylimidazole, 98%
	J63989	2-Mercaptoethane sulfonic acid sodium salt, 96%
	A14377	2-Mercaptoethylamine hydrochloride, 97+%
	41535	3,4-Dihydroxy-DL-phenylalanine, 98%
	A15893	3,4-Dihydroxyphenylacetic acid, 98+%
	J63226	4,5',8-Trimethylpsoralen, 99%
	A12497	4-Hydroxy-TEMPO, free radical, 98+%
	J60151	5-Bromo-4-chloro-3-indolyl-alpha-D-galactoside
	J65677	5-Bromo-4-chloro-3-indolyl beta-D-glucoside, 99%

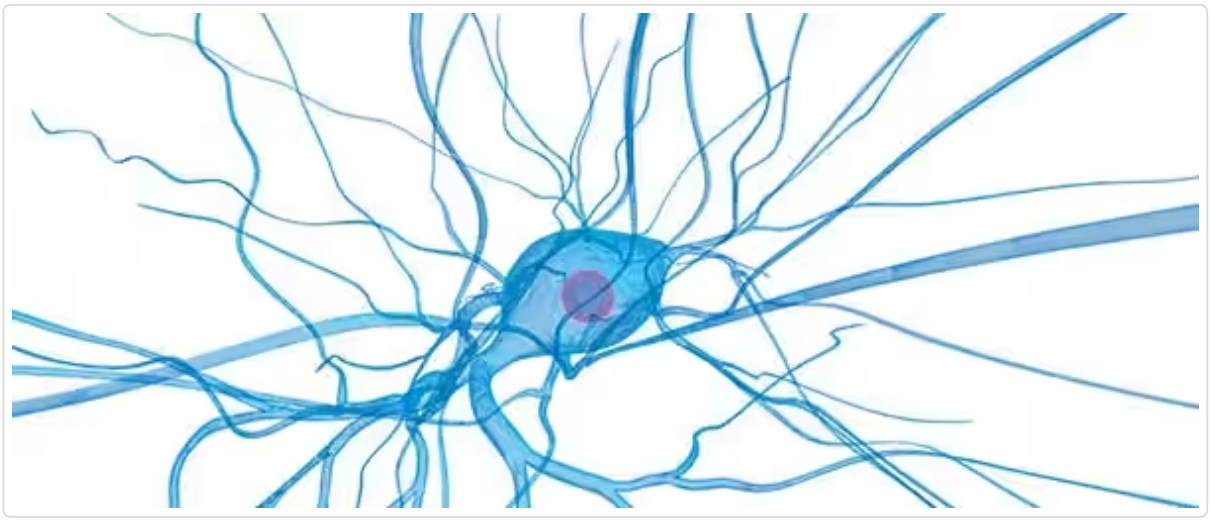
	J64360	5-Bromo-4-chloro-3-indolyl beta-D-glucuronide sodium salt, 98%
	J64451	5-Bromo-4-chloro-3-indolyl phosphate disodium salt, 98%
	J61435	5-Hydroxyindole-3-acetic acid, 98%
	A15802	6-Hydroxynicotinic acid, 98%
	J67057	6-Ketoprostaglandin F1alpha, 98%
	B24356	9-Aminoacridine hydrochloride hydrate, 99%
	J63790	Acebutolol hydrochloride
	J64884	(±)-alpha-Amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
	L03801	beta-Estradiol, 99% (dry wt.), ca 3% water
	J63701	Bexarotene, 98%
	J67499	Bis(methylthio)gliotoxin, 99%
	J63451	Bromhexine hydrochloride, 98+%
	J67155	C2 Dihydroceramide, 98%
	J67190	C8 Ceramide, 98%
	J65355	Cafestol
	J63714	Carbenoxolone disodium salt, 97+%
	J64196	Centrophenoxine hydrochloride, 98%
	J64110	Chlorpropamide

J63900	Colcemid, 98+%
J60280	Cytochalasin A
J65342	Cytochalasin B
J61048	Denatonium benzoate
J67482	D-erythro-Dihydrosphingosine-1-phosphate, 98%
J63775	Diacerein
J66010	Diazoxide, 98%
J67378	Dihydroceramide C6, 98%
J63005	DL-Adrenaline
L04711	DL-Thioctic acid, 98%
J62557	DL-Thiorphan
J67218	Docosahexaenoyl PAF C-16, 98%, 1.0% in ethanol with 0.1% BHT as a stabilizer
A11446	D-(-)-Penicillamine, 98%
J67247	Eicosapentaenoyl PAF C-16, 98%, 1.0% in ethanol with 0.1% BHT as a stabilizer
J61745	(-)-Epigallocatechin gallate

J63580	Ethisterone, 98%
J63996	Fluocinolone acetonide
J63292	Forskolin, 98+%
J60731	(-)-Gallocatechin
J62740	(-)-Gallocatechin gallate
J67675	gamma-L-Glutamyl hydrazide
J66590	Kainic acid monohydrate, 96%
L04911	L-Adrenaline, 98+%
J60199	L-Kynurenine
L08087	L-Noradrenaline, 98%
J67385	Mead acid methyl ester
J67031	Methoprene acid, 98%
J63839	Methoxychlor
J67481	Muscone, 99%
J67107	N-Decanoyl-4-nitroaniline, 98%
L06233	n-Dodecyl gallate, 98%
J62793	Nefazodone hydrochloride, 98+%
J62922	Neohesperidin dihydrochalcone hydrate, 98+%

J67360	NOB, 98%
J60890	Nomega-Methyl-L-arginine acetate, 99+%
J61281	(±)-Octopamine hydrochloride, 99%
J66836	Oleoyl-L-alpha-lysophosphatidic acid sodium salt
L03449	Phenylbutazone, 98%
J61943	Phosphoenolpyruvic acid tricyclohexylammonium salt
J63013	Phosphoenolpyruvic acid trisodium salt heptahydrate, 98%
B20010	Probenecid, 98%
J60790	Resveratrol, 98%
B21263	Serotonin hydrochloride, 98%
L04848	(-)-Shikimic acid, 98%
J66459	Sphingosine-1-phosphate
J60070	Tacrine hydrochloride
J60271	Thalidomide
J62266	(±)-Thalidomide, 99+%
J62663	Tolmetin sodium salt dihydrate, 98+%
J61972	trans-Zeatin, 97%

Signal Transduction Reagents - Inhibitors



Inhibitors bind to enzymes and decrease or prevent their biological activity. They may bind in an enzymeÆs active site or at some other site on the protein. The inhibitorÆs activity can be reversible or irreversible. Reversible inhibitors bind non ûcovalently to an enzyme or enzyme-substrate complex. Irreversible inhibitors typically form covalent linkages to an enzyme, changing it chemically so it can no longer catalyze a reaction. Signal transduction pathways are altered in disease systems and are the target for novel drug therapy. Alfa Aesar supplies a wide range of products that act as inhibitors for various signal transduction pathways. These products can be used for therapeutic strategies by inhibiting signaling pathways of interest.

	J65650	10058-F4
	J60853	1,2,3,4,5,6-Hexabromocyclohexane
	J67495	12-Methoxydodecanoic acid, 98%
	J64065	1,3-Bis(4-bromophenyl)-5-phenyl-2,4-imidazolidinedione
	J65918	1,3-Diethyl-5,6-diaminouracil
	J67148	13(S)-Hydroxyoctadeca-9Z,11E-dienoic acid, 98%, 90-100 µg/mL in ethanol
	J67023	17-DMAG, 98%
	J63610	1-Aminobenzotriazole, 97%
	B22995	1-Hydrazinophthalazine hydrochloride, 98%
	J64981	2-(3-(2,3-Dichlorophenoxy)propylamino)ethanol hydrochloride
	J64414	2-(4,5,6,7-Tetraiodo-1,3-dioxoisoindolin-2-yl)acetic acid
	J65391	2,4,6-Trimethyl-N-[2-(trifluoromethyl)phenyl]benzenesulfonamide
	J65999	2,4,6-Trimethyl-N-[3-(trifluoromethyl)phenyl]benzenesulfonamide
	J64485	2'-Amino-3'-methoxyflavone, 99%
	J64919	2-Aminopurine, 98%
	J64066	2-Chloro-11-(1-piperazinyl)dibenzo[b,f]-1,4-oxazepine, 98%
	J64455	2-Chloro-5-nitro-N-(4-pyridyl)benzamide

B22603	2-Fluoro-alpha-methyl-4-biphenylacetic acid, 99%
J64203	2-Methyl-5-hydroxytryptamine hydrochloride, 97%
A15950	3,4-Dihydroxycinnamic acid, predominantly trans, 98+%
A11311	3,4-Dihydroxy-L-phenylalanine, 98+ %
J63480	3-Bromo-7-nitroindazole, 98+%
J64598	3-Isobutyl-1-methylxanthine
L15041	4',5,7-Trihydroxyflavone, 97%
J64326	4-(7-Chloro-4-quinolinylamino)-2-(diethylaminomethyl)phenol dihydrochloride dihydrate, 98%
J64358	4-Amino-1,8-naphthalimide, 95%
J65367	4-Dimethylamino-N-(6-hydroxyamino-6-oxohexyl)benzamide
A16974	4-Hydroxy-1H-pyrazolo[3,4-d]pyrimidine, 98%
L04651	4-Hydroxybenzylidenemalononitrile, 98%
J64095	4'-Hydroxydiclofenac
B20989	4-Isobutyl-alpha-methylphenylacetic acid, 99%
J67456	(4-Methoxybenzylidene)malononitrile, 99%
J66465	4-Nitrophenylphosphorylcholine
J67334	4-Phenylchalcone Oxide, 99%

J65596	5-[3-(Dimethylamino)propylidene]dibenzosuberane hydrochloride, 98%
J64870	5,6-Dichlorobenzimidazole riboside, 98%
J61624	5,8,11,14-Eicosatetraynoic acid
J66651	5Z-7-Oxozeaenol

5Z-7-oxozeaenol acts as an irreversible ATP-competitive inhibitor of ERK2 (IC_{50} = 80 nM). It also inhibits TAK1 (MEKK7), MKK7, and MEK1, which all contain a common cysteine residue in the ATP-binding site. 5Z-7-oxozeaenol does not inhibit other MAP kinases.

J67275	6-Bromoindirubin-3'-oxime, 97%
B25016	6-Hydroxyflavone, 98%
J67138	6-Methoxy-2-naphthylacetic acid, 99%
J67249	7,7-Dimethyleicosadienoic acid, 99%
J65324	7,8-Dichloro-4-oxo-1,4-dihydroquinoline-3-carboxylic acid
J64199	7-Hydroxycoumarin glucuronide sodium salt, 97%
J64389	7-Methyl lumazine
J62011	A-7 hydrochloride
J61737	Acarbose, 95%
J60355	Aceclofenac, 99%
L01569	Acetohydroxamic acid, 98%
J61490	Actin, from rabbit muscle

J64042	Adenylyl Cyclase Type V Inhibitor, NKY80
J65119	Akt Inhibitor X
J67097	alpha-Hydroxyfarnesylphosphonic acid, 96%, 1mg in 500µl ethanol
J63154	alpha-Ketoglutaric acid disodium salt dihydrate, 99%
J67201	AM-404, 98%
J65155	AM 580
J64202	AMG-9810
J60705	Aminophylline, anhydrous, 98%
J62655	Amrinone, 98%
J62511	Antazoline hydrochloride, 98%
J65320	Apoptosis Activator 2
J64151	ARP 100
J67246	AS-041164, 98%
J64218	AS 19
J65997	Aurora Kinase/Cdk Inhibitor
J64813	Autophagy Inhibitor, 3-MA
J65079	AY 9944 dihydrochloride
J62314	Azathioprine

J67222	BAY 11-7085, 99%
J64581	Benserazide hydrochloride
J61180	Benzydamine hydrochloride
J64615	beta-Adrenergic Receptor Kinase1 Inhibitor
J67308	beta-Lapachone, 98%
J67150	(-)-Bicuculline methiodide, 98%
J67102	BI-D1870, 98%
J64265	Biotinyl-Ala-Ser-Thr-DL-Asp fluoromethyl ketone
J64477	Biotinyl-Phe-Ala-Asp fluoromethyl ketone
J63401	Bisindolylmaleimide 1
J67143	BML-259, 98%
J67119	Bopindolol malonate, 97+%
J60378	Bortezomib, 98%
J67146	BRL-50481, 98%
J63922	Brompheniramine maleate
J61105	Bupropion hydrochloride, 99%
J65052	Calpain Inhibitor IV
J65991	Calpain Inhibitor XI

J64751	Calpain Inhibitor XII
J67282	Cantharidic acid, 98%
J61801	Cantharidin, 98%
J63593	Captopril

J61316 Carboxy-PTIO potassium salt, 98+%

Carboxy-PTIO is a water soluble and stable nitric oxide radical scavenger. In chemical and biological systems it exhibits antagonistic action against the free nitric oxide radical (NOÂ·). The compound reacts with nitric oxide in a stoichometric manner.

J64407	Caspase-1 Inhibitor I
J64583	Caspase-1 Inhibitor IV
J64801	Caspase-3/7 Inhibitor
J64442	Caspase-3 Inhibitor III
J65501	Caspase-9 Inhibitor III
J61071	Castanospermine, 99%
J65347	Cathepsin B Inhibitor III
J64737	Cathepsin B Inhibitor IV
J65957	Cathepsin G Inhibitor I

J64082	Cathepsin K Substrate (fluorogenic)
J64690	Cdc2-Like Kinase Inhibitor, TG003
J65943	Celiprolol hydrochloride
L00782	Chelidamic acid hydrate, 95%
J60457	Chlorogenic acid
B25238	Chlorpheniramine maleate, 99%
J62927	Chromomycin A3, 97%
J63275	Chymostatin
J65561	CI 994
J64094	CIL-102
J65319	Cilostamide
J62301	Cilostazol, 98%
J67167	Cinnamyl-3,4-dihydroxy-alpha-cyanocinnamate, 98%
J64568	Cinnarizine
J65567	cis-3,4',5-Trimethoxy-3'-aminostilbene
J65540	cis-5-(3,5-Dimethoxystyryl)-2-methoxyphenol
J66060	cis-5,8,11,14,17-Eicosapentaenoic acid
J62485	Clomipramine hydrochloride

J65131	Compound E
J65122	Cromolyn sodium salt, 98%
J61528	Cyclopamine, 99%
J65995	D-64131
J65864	DAPT
J67412	D-erythro MAPP, 98%
J62609	Diclofenac sodium salt
J67477	Dihydroceramide C8 , 98%
J67077	Dimethyloxaloylglycine, 98%
J64838	Diphenyleneiodonium chloride
J63329	Dipyridamole
J62182	DL-Aminoglutethimide, 99%
J62103	DL-erythro-Dihydrosphingosine
J67428	DL-threo-Dihydrosphingosine, 98%
J64630	DNA Methyltransferase Inhibitor
J63681	Domperidone
J60575	Doxofylline
J64090	Dp44mT

J65171	DY 131
J67434	E6 Berbamine, 98%
J64858	EBPC
J65894	Elastase Inhibitor III

Elastase inhibitor III, or MeOSuc-Ala-Ala-Pro-Val chloromethyl ketone, inhibits human leukocyte elastase (HLE). It is cell permeable and because of the chloromethyl ketone group, it irreversibly inhibits the enzyme. HLE is a serine protease found in the azurophilic granules of polymorphononuclear leukocytes. When then enzyme is released from the cell it can hydrolyze elastin and collagen. Increased HLE activity has been is associated with several diseases including rheumatoid arthritis and cystic fibrosis.

A15722	Ellagic acid hydrate, 97%, may cont. up to 12% water
J64074	Embelin
J61600	Emodin
J63932	Enalapril maleate salt
J60948	Endothall
J67480	Enzastaurin, 99%
J61383	(±)-Equol
J61612	Erbstatin analog
J63114	Esculin sesquihydrate
A11624	Esculin sesquihydrate, 97%

J62381	Etidronate disodium
J60139	Everolimus
J64753	EX 527
J67240	Farnesylthioacetic acid, 98%
J67454	Farnesyl thiotriazole, 98%
J63525	Fasudil, 98+%
J60594	Fasudil dihydrochloride, 99+%
J60751	Fasudil monohydrochloride, 99+%
J65298	FBPase-1 Inhibitor
J63562	Fenvalerate, 99%
J63454	Finasteride
J64484	Flt-3 Inhibitor
J62015	Fluconazole, 99%
B23583	Flufenamic acid, 97%
J61197	Fluoxetine hydrochloride, 99%
J67045	Fumagillin, 95%
B20834	Furazolidone, 98%
J61378	Furegrelate sodium salt, 99+%

J64528	G3335
J62482	Galanthamine hydrobromide
J64068	gamma-Secretase Inhibitor I
J64828	gamma-Secretase Inhibitor II
J64904	gamma-Secretase Inhibitor XX
J60684	GBR 12909 dihydrochloride
J62991	GBR 12935 dihydrochloride
J67082	GDC-0068, 98%
J65022	GGTI-2147
J64718	Gly-Phe beta-naphthylamide
J65687	GM 6001
J64386	GM 6001, Negative Control
J67008	Gö 6983, 98%
J64048	GSK-3beta Inhibitor I
J64336	GSK-3beta Inhibitor VI
J64554	GSK-3beta Inhibitor VIII
J64659	GSK-3 Inhibitor X
J65166	GSK 4716

J65634	GW 9662
J61697	H-7 dihydrochloride
J63728	Haloenol Lactone Suicide Substrate, 98+%
J61699	Harmaline, 98+%
L19068	Harmine, 98+%
J67279	HBDDE, 97%
J67168	HET-0016, 98%
J65939	Histone Acetyltransferase Inhibitor IV, CPTH2
J65479	Histone Deacetylase Inhibitor II
J64940	Histone Deacetylase Inhibitor III
J64917	HNHA
B22093	Hydrochlorothiazide, 98%
J63913	(Hydroxy-2-naphthylmethyl)phosphonic acid, 98%
J60680	Hydroxytacrine maleate salt

H26425	Hypericin, 98%
J65916	IGF-1R Inhibitor, PPP
J65132	IKK-2 Inhibitor V
J67278	Ilimaquinone, 98%
A11510	Iminodiacetic acid, 98+%
J63723	Imipramine hydrochloride
J67459	Indirubin-3'-oxime, 98%
J63255	Indomethacin, 99+%
J62370	Irinotecan hydrochloride trihydrate, 99%
J67081	Isotetrandrine, 98%
J65506	JAK2 Inhibitor IV
J65433	JNJ 10191584 maleate
J63090	K252c, 97%

K252c is a cell permeable inhibitor of protein kinase C. It exhibits ~10-fold selectivity for PKC (IC_{50} vs PKA (IC_{50} = 25.7 □M). It has also been shown to display cytotoxic and antitumor activity.

J63367	Ketoconazole, 98%
J62702	Ketoprofen
J67000	L-Asp-Asp-rhodamine trifluoroacetate salt
J67494	Lavendustin A
J67142	Lavendustin B, 97%

	J64111	Lck Inhibitor II
	J65917	Leflunomide
	J64847	L-Glutamic acid alpha-(7-amido-4-methylcoumarin)
	J64272	L-Glutamic acid gamma-(7-amido-4-methylcoumarin)
	J65592	L-Glycine 7-amido-4-methylcoumarin
	J65453	Linomide
	J67181	(±)-Lisofylline, 98%
	J64951	L-Leucine 7-amido-4-methylcoumarin hydrate
	J64425	Locostatin
	H52792	Lovastatin, 97%
	J65822	Loxistatin
	J67289	LY 294002, 98%
	J65036	M50054
	J64242	MAC 1753
	J67341	Manoalide, 98%
	J62321	Maprotiline hydrochloride, 99%
	J67288	Marimastat, 98%
	J62464	Meclizine dihydrochloride monohydrate

J60484	Meclofenamic acid sodium salt, 99+%
J62705	Mefenamic acid, 98%
J60635	Meloxicam
J67103	Methyl 2-(4-fluorobenzamido)benzoate, 98%
J67139	Methyl arachidonyl fluorophosphonate, 98%
J63786	Methyl caffeate
J62917	Midostaurin
J64947	MIF Antagonist, ISO-1
J62659	Milrinone, 98+%
J67462	Mirin, 95%
J67475	Misoprostol, free acid
J66790	MMP-8 Substrate, fluorogenic
J64580	MMP-9/MMP-13 Inhibitor I
J65638	MMP Inhibitor II

J67096	Monastrol, 98%
J61905	Mycophenolic acid, 98%
J67339	N-(4-n-Pentylcinnamoyl)anthranilic acid
J63072	Nabumetone
J64106	N-Acetyl-Arg-Glu-Lys-Arg-7-amino-4-(trifluoromethyl)coumarin
J64134	N-Acetyl-Asp-Glu-Val-Asp-7-amino-4-(trifluoromethyl)coumarin
J65204	N-Acetyl-Asp-Glu-Val-Asp-al
J65878	N-Acetyl-Asp-Glu-Val-Asp p-nitroanilide
J60534	N-Acetyl-D-sphingosine, 98%
J64258	N-Acetyl-Ile-Glu-Thr-Asp-7-amino-4-(trifluoromethyl)coumarin
J65646	N-Acetyl-Tyr-Glu-Val-Asp-7-amino-4-methylcoumarin
J63103	Naproxen sodium, 98%
J67492	N-Arachidonylglycine
J63166	Naringin
J64910	N-Benzyl-p-toluenesulfonamide
J65812	N-Boc-L-aspartic acid 4-methyl ester fluoromethyl ketone
J64372	Necrosis Inhibitor, IM-54
J65341	Necrostatin-1

	J64646	Necrostatin-1, Inactive Control

A cell-permeable analog of Necrostatin-1 (J65341) that serves as an inactive control.

	J62300	Neostigmine bromide
	J65706	NF-kB Activation Inhibitor IV
	J64555	NF-kB Activation Inhibitor VI, BOT-64
	J65446	N-Fmoc-Tyr-Ala diazomethyl ketone
	B24723	Nipecotic acid, 98%
	J67453	N-Linoleoylglycine, 98%
	J64435	N-Methoxysuccinyl-Phe-Leu-Phe-7-amino-4-(trifluoromethyl)coumarin
	J64206	N,N,N',N'-Tetrakis-(2-pyridylmethyl)ethylenediamine
	L03149	Nordihydroguaiaretic acid, 97%
	J60639	N-(p-Toluenesulfonyl)-L-phenylalanine chloromethyl ketone
	J67313	NS-398, 98%
	J64979	NSC 23766
	J66520	NSC 663284
	J67363	Nullscript, 97%
	J62860	Omeprazole, 98%
	J65767	Omi/HtrA2 Protease Inhibitor
	J64018	Oncrasin 1

J67444	ONO-RS-082, 98%
J60400	Oxonic acid potassium salt
J65848	p21-Activated Kinase Inhibitor III, IPA-3

p21-Activated Kinase Inhibitor III, also known as IPA-3, is an allosteric inhibitor of p21 activated kinase (Pak1). It binds to the autoinhibitory domain of Pak1, and has been implicated in tumorigenesis and metastasis.

J67268	P32/98, 98%
J67117	Palmityltrifluoromethylketone, 98%
J64413	PARP Inhibitor VIII, PJ34
J64722	Phenylethyl 3-methylcaffeate
J64453	Phosphodiesterase 4 Inhibitor
J63456	Phosphoramidon disodium salt, 97+%
J67232	Picotamide, 98%
J64277	Pifithrin-alpha, p-Nitro hydrobromide
J63239	Piroxicam
J64165	PPM1D Phosphatase Inhibitor
J64071	Prima-1

J63833	Proadifen hydrochloride
J64533	Prolyl Endopeptidase Inhibitor
H26645	(±)-Propranolol hydrochloride, 99%
J67293	Prostaglandin B2, 99%
J62926	Protamine sulfate
J64973	Proteasome Inhibitor II
J64492	Proteasome Substrate
J64512	PTP1B Inhibitor
A15807	Quercetin dihydrate, 97%
J61913	Quinapril hydrochloride, 98%
J65639	R5C3
J67037	RAF265
J61286	(R)-(-)-Deprenyl hydrochloride
J67323	RHC-80267, 98%
J65379	RITA, p53 activator III
J67231	Ro 48-8071, 98%
J67177	Rolipram, 98%
L09855	(S)-(+)-2-(6-Methoxy-2-naphthyl)propionic acid, 99%

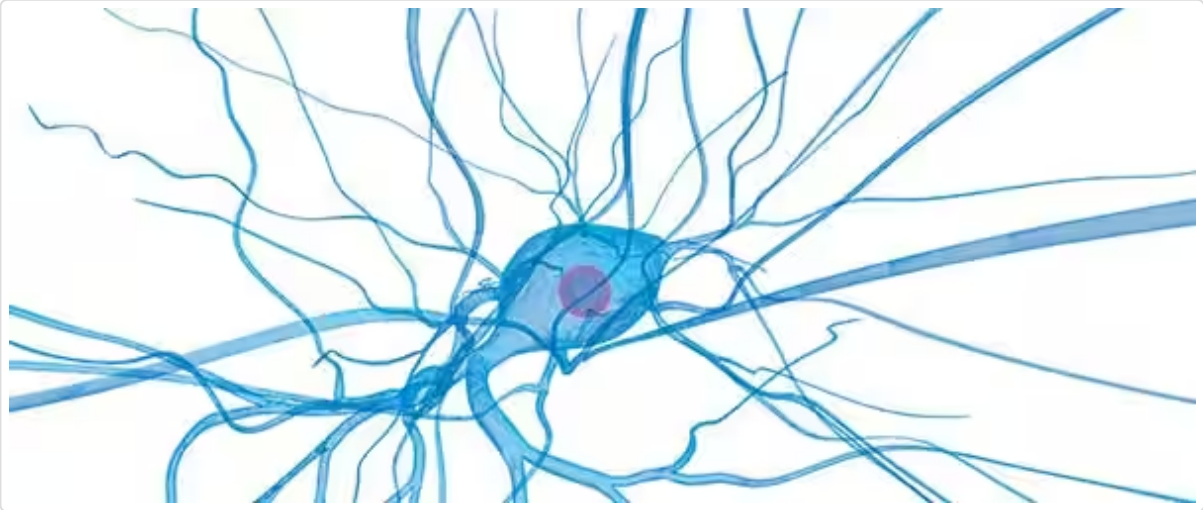
	J64844	(S)-4-Benzyl-3-butyryl-2-oxazolidinone
	J65248	SAG
	J65847	(S)-alpha-Amino-3-hydroxy-5-methyl-4-isoxazolepropionic acid
	J64192	Salubrinal
	J65294	SANT-1
	A14594	Sarcosine, 98%
	J65387	SB 225002
	J67312	SB-366791, 99%
	J67130	SC-51089, 98%
	J67002	SC-51322, 98%
	J62171	Schiff's Reagent
	J67379	Scriptaid, 97%
	J64486	Sirtinol
	J67479	SKI-II, 98%
	J64726	Smoothened Agonist dihydrochloride dihydrate
	J67204	SNAP, 98%
	J67272	SP600125, 99%
	A19096	Spermidine, 99%

J67455	SQ 22536, 95%
J67242	Src Inhibitor-1, 98%
J65114	Stem-Cell Factor/c-Kit Inhibitor
J67344	STO-609, 98%
J64198	Suberoylanilide hydroxamic acid, 98%
J64422	Suptopin-2
J64281	Syk Inhibitor
J63571	Tacrolimus, 99+%
J64028	Tamibarotene
J64330	TAPI-2
J67350	Tetradecylthioacetic acid, 98%
B20721	Tetraethylthiuram disulfide, 97%
A15997	Theophylline monohydrate, 99%
J60009	Thiabendazole, 98+%

J60459	Tioconazole, 98+%
J67337	TOFA, 99%
J63070	Trazodone hydrochloride, 98+%
J63112	Triflumuron, 98+%
J64810	TrkA Inhibitor
J63927	Trypsin inhibitor, chicken egg whites
J60982	Trypsin inhibitor, soybeans
J60308	Tyrphostin A23, 99%
J63058	Tyrphostin A9, 98+%
J67211	Tyrphostin AG-126
J67039	Tyrphostin AG-1296, 98%
J67135	Tyrphostin AG-183, 98%
J67345	Tyrphostin AG-213, 97%
J65263	Tyrphostin AG 537
J61715	Tyrphostin B42, 99+%
J61704	Tyrphostin B46, 98+%
J65227	Tyrphostin C15
J67185	Tyrphostin RG 14620, 98%

J61246	U0126, 99+%
J67355	U-0521, 98%
J67389	U-18666A, 95%
J62898	U-73122, 95%
J67212	U-74389G, 98%
J67472	U-83836E, 98%
J65388	Ubiquitin E1 Inhibitor, PYR-41
J64874	uPA Inhibitor II, UK122
J67015	Wiskostatin, 99%
J63983	Wortmannin, Penicillium funiculosum, 99+%
J63326	Zaprinast, 98+%
J64569	Z-Asp-Glu-Val-Asp-7-amino-4-(trifluoromethyl)coumarin
J64796	Z-Gly-Gly-Leu-7-amino-4-methylcoumarin
J65505	Z-Ile-Glu(OMe)-Thr-Asp(OMe)-fluoromethyl ketone
J64966	Z-Leu-Glu(OMe)-His-Asp(OMe)-fluoromethyl ketone trifluoroacetate salt hydrate
J64613	Z-Leu-Leu-Glu-7-amino-4-methylcoumarin
J64731	Z-Leu-Val-Gly diazomethyl ketone
J67265	ZM-306416 hydrochloride, 98%

Signal Transduction Reagents - Agonists



Agonists are substances that activate cellular receptor molecules to which they attach. In a nutshell, agonists bind to cellular receptors and elicit a biological response. The agonists enhance the signal transduction by binding to the receptor in cellular systems. They can be full agonists, activating the receptor to maximal activity, or partial agonists. There are also inverse agonists. These ligands bind receptors and cause the reverse biological response of the natural ligand. Alfa Aesar supplies receptor agonists for many different cellular protein receptors. These reagents include both natural receptor ligands as well as synthetic agonists. In addition, the conformational changes brought about by the agonists activate or increase the activation of secondary intracellular messenger.

	B20355	1-(3-Chlorophenyl)biguanide hydrochloride, 97%
	A14057	1-(3-Chlorophenyl)piperazine monohydrochloride, 97%
	J60278	1-(4-Chlorophenyl)piperazine, 97%
	J67427	15-Deoxy-delta12,14-prostaglandin J2, 97%
	J67126	17-Phenyl-trinor-prostaglandin E2, 98%
	J67420	19(R)-Hydroxyprostaglandin E2, 0.05% w/v in ethanol
	J65118	1-Amino-1-cyclopropanecarboxylic acid, 98%
	L12617	2-(1-Naphthylmethyl)-2-imidazoline nitrate, 99%
	L06841	2,6-Diisopropylphenol, 97%
	J63810	2-Chloroadenosine
	J60405	5'-N-Ethylcarboxamidoadenosine
	J67025	Adapalene
	L12089	(±)-Anabasine, tech. 85%
	J67299	AR231453, 98%
	J62768	(±)-Baclofen, 99+%
	J65919	Bethanechol chloride, 98%
	J61997	Bisacodyl, 98+%
	J67041	Bourgeonal, 98%

	J60476	Buspirone hydrochloride
	J67093	C16 Ceramide, 98%
	J67034	C6 Ceramide
	L06674	Carbachol, 98+%
	J67199	Carbacyclin, 99%
	J62590	Carbamazepine, 98%
	J64446	Carbetapentane citrate
	J63801	CGS 12066B dimaleate, 98+%
	J60793	CGS 21680 hydrochloride, 99%
	J67131	Ciglitizone, 98%
	J60650	Cimaterol
	J63707	Clonidine hydrochloride, 98+%
	J13785	Coenzyme A trilithium salt dihydrate, Thermo Scientific
	J65137	Coenzyme Q-10, 98+%
	J67317	CP-31398, 98%
	J67382	D-erythro-C8 Ceramine, 98%
	J61788	DL-Isoproterenol hydrochloride, 98%
	A18098	DL-Menthol, 98+%

L10809 DL-Nornicotine, 96%

J61333 Dobutamine hydrochloride

J67086 Guanfacine hydrochloride, 99%

J67425 GW-405833

J60889 Hexestrol, 98+%

J67451 Icilin, 97%

J62346 Imetit dihydrobromide, 98%

A high affinity agonist at H3 and H4 histamine receptors.

J60601 Ingenol 3-angelate, 98%

A11795 Isonipecotic acid, 98%

J63674 Isosorbide mononitrate, 98+%

A10474 L-Menthol, 99%

J63960 Lofexidine hydrochloride, 98+%

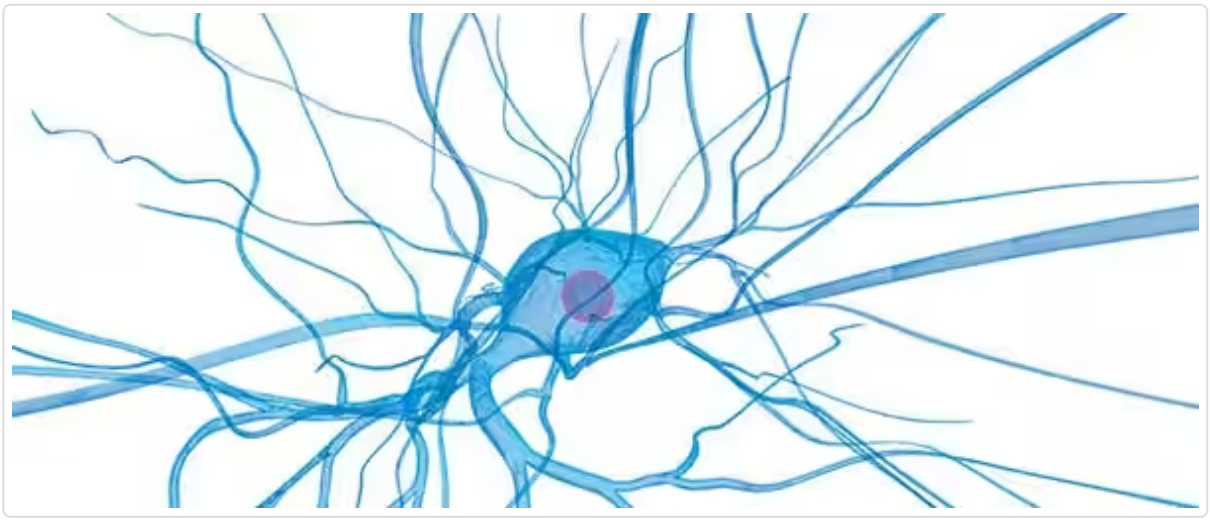
J67358 Methanandamide, 98%

J67250 N-Arachidonoyldopamine, 98%

J67294	N-Arachidonyl-2-chloroethylamide, 96%
J67376	N-Arachidonylcyclopropylamide, 98%
J63295	Nicergoline
J60306	N-Methyldopamine hydrochloride, 95%
J61536	O-Acetyl-L-carnitine hydrochloride
J67092	Olvanil, 98%
J67473	Palmitoylethanolamide, 98%
J63916	Phorbol 12-myristate 13-acetate, 95%
J67267	Phytoceramide C2, 98%
J67353	PNU-282987, 99%
J67380	Polygodial, 97%
J67245	Prostaglandin F2alpha tris salt, 99%
A11414	Pyridine-2,3-dicarboxylic acid, 99%
J63247	Pyrilamine maleate
J61933	Quipazine dimaleate, 99+%
J61591	(+)-Quisqualic acid, 99+%
J64075	(S)-(+)-2-Amino-4-phosphonobutyric acid, 97%
A16802	S-Acetylthiocholine iodide, 98%

A18544	Salbutamol hemisulfate, 98+%
A12398	(S)-(-)-Nicotine, 99%
J61595	Spermidine trihydrochloride, 99+%
L19562	Spermine, 97%
J63060	Spermine tetrahydrochloride, 99%
J67136	SR-12813, 98%
J67149	Tizanidine hydrochloride, 99%
J63975	Tulobuterol
J61448	Tulobuterol hydrochloride, 98%
J67220	U-69593, 99%
J67375	WAY-200070
J61430	Xylazine
J62394	Xylazine hydrochloride
J60616	Zolmitriptan

Signal Transduction Reagents - Protease Inhibitors



During protein expression proteases can begin degrading proteins of interest as soon as cells and tissues are lysed. In order to preserve the activity and nature of proteins of interest, lysates are often treated with a mixture of protease inhibitors. Alfa Aesar offers a number of protease inhibitors to prevent protein sample degradation by the most common proteases. We also offer protease and phosphatase inhibitor cocktails to prevent lysis from multiple enzymes at once. These products are widely used in protein analytical research to protect proteins from proteolytic degradation.

J65999	2,4,6-Trimethyl-N-[3-(trifluoromethyl)phenyl]benzenesulfonamide
J65198	3,4-Dichloroisocoumarin, 98%
H26473	4-(2-Aminoethyl)benzenesulfonyl fluoride hydrochloride, 97%
J63241	4',5,7-Trihydroxyisoflavone, 99+%
B22146	alpha-Toluenesulfonyl fluoride, 99%
J65155	AM 580
J63680	Antipain dihydrochloride
J63039	Aprotinin, from bovine lung
J11388	Aprotinin, from bovine lung, Thermo Scientific
J61106	Bestatin
J60384	Bestatin hydrochloride, 98%
J65991	Calpain Inhibitor XI
J64751	Calpain Inhibitor XII
J60481	Calpeptin, 98+%
J62362	Camostat methanesulfate, 98%
J65864	DAPT
J62933	E-64
J65894	Elastase Inhibitor III

Elastase inhibitor III, or MeOSuc-Ala-Ala-Pro-Val chloromethyl ketone, inhibits human leukocyte elastase (HLE). It is cell permeable and because of the chloromethyl ketone group, it irreversibly inhibits the enzyme. HLE is a serine protease found in the azurophilic granules of polymorphononuclear leukocytes. When then enzyme is released from the cell it can

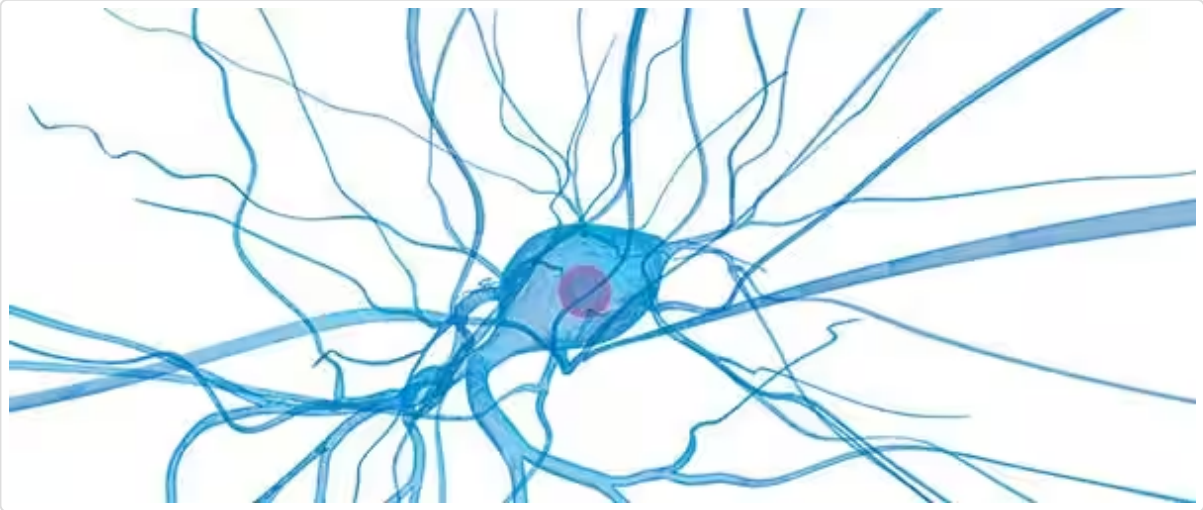
hydrolyze elastin and collagen. Increased HLE activity has been is associated with several diseases including rheumatoid arthritis and cystic fibrosis.

J61120	Elastatinal
J64828	gamma-Secretase Inhibitor II
J63445	Genistin, 99+%
J65687	GM 6001
J64386	GM 6001, Negative Control
J65634	GW 9662
J63959	Nalpha-(p-Toluenesulfonyl)-DL-lysine chloromethyl ketone hydrochloride, 98%
J65446	N-Fmoc-Tyr-Ala diazomethyl ketone
J64435	N-Methoxysuccinyl-Phe-Leu-Phe-7-amino-4-(trifluoromethyl)coumarin
J60155	Okadaic acid, 98%
J61791	Okadaic acid potassium salt, 98%
J62463	Okadaic acid sodium salt, 98%
J65767	Omi/HtrA2 Protease Inhibitor
J60237	Pepstatin A, 98%
J20037	Pepstatin A, Thermo Scientific
J65354	Phosphatase Inhibitor Cocktail A
J63907	Phosphatase Inhibitor Cocktail I
J61022	Phosphatase Inhibitor Cocktail II

	J64216	Phosphatase Inhibitor Cocktail III
	J64084	Phosphatase Inhibitor Cocktail IV
	J64533	Prolyl Endopeptidase Inhibitor
	J61852	Protease Inhibitor Cocktail, for general use
	J61473	Protease Inhibitor Cocktail, for mammalian cells
	J64401	Protease Inhibitor Cocktail I
	J65358	Protease Inhibitor Cocktail I, Animal Free
	J64963	Protease Inhibitor Cocktail II
	J64283	Protease Inhibitor Cocktail III
	J64156	Protease Inhibitor Cocktail III, Animal-Free
	J64112	Protease Inhibitor Cocktail III, Animal-Free, DMSO-Free
	J65789	Protease Inhibitor Cocktail IV
	J64920	Protease Inhibitor Cocktail V, EDTA-Free, Animal-Free
	J65974	Protease Inhibitor Cocktail VI, General Use

	J64016	Protease Inhibitor Cocktail VII, for His Tag Sequences
	J65553	Protease Inhibitor Cocktail VII, for His Tag Sequences, DMSO-Free
	J64576	Protease Inhibitor Cocktail VI, Plant Cells
	81104	Sodium orthovanadate, 99.9% (metals basis)
	J62837	Staurosporine, 99+%
	J64028	Tamibarotene
	J64731	Z-Leu-Val-Gly diazomethyl ketone
	J64544	Z-Val-Val-Nle diazomethyl ketone

Signal Transduction Reagents - Antagonists



Antagonists block the action of agonists which means antagonists are receptor ligands that block or dampen agonist responses upon binding. Antagonists do not provoke any biological effects on their own but prevent actions from agonists. Antagonists can bind receptors at the same or different sites as an agonist would, and their effect can be reversible or irreversible. Antagonists bring conformational changes to the receptor when bound and helps the cells to maintain the neutral signal transduction activity irrespective of whether agonists are bound or not. In other words, antagonists do not need agonists for their activity to neutralize the signal transduction. Alfa Aesar offers a wide range of molecules that act as antagonists in different cell signaling pathways.

	J67164	(±)13-Azaprostanoic acid, 98%
	J63554	1,3-Dipropyl-8-phenylxanthine
	J63873	1-Aminocyclobutanecarboxylic acid hydrochloride
	B21764	2-Benzyl-2-imidazoline hydrochloride, 99%
	J63588	2-Hydroxysaclofen
	A14246	3-Acetylpyridine, 98%
	J62583	3-Tropanyl-3,5-dichlorobenzoate, 99+%
	J62807	3-Tropanylindole-3-carboxylate hydrochloride
	J67423	4-(1-Oxo-5Z,8Z,11Z,14Z-eicosatetraenylamino)butanoic acid,5% w/v in ethanol
	J61099	4alpha-Phorbol 12-myristate 13-acetate, 99%
	J62298	4-Diphenylacetoxy-N-methylpiperidine methiodide
	A12602	4-Hydroxyquinoline-2-carboxylic acid hydrate, 98%
	J61138	5,7-Dichlorokynurenic acid
	J61567	5,7-Dichlorokynurenic acid sodium salt
	A18626	5-Chloroindole-2-carboxylic acid, 98%
	J63941	6,7,8,9-Tetrahydro-5H-benzocycloheptene-5-ol-4-ylidene acetic acid
	J60911	6,7-Dinitro-1,4-dihydroquinoxaline-2,3-dione
	J63472	6-Cyano-7-nitro-1,4-dihydroquinoxaline-2,3-dione, 98%

J65111	7-(2-Chloroethyl)theophylline, 97%
J61359	7-Chlorokynurenic acid, 98+%
J61283	7-Chlorokynurenic acid sodium salt, 98%
J61565	8-Cyclopentyl-1,3-dimethylxanthine
A18542	alpha-Naphthoflavone, 97%
J60339	Astemizole, 99+%
J61199	(±)-Atenolol
J67361	BCTC, 98%
J61954	Benzotropine methanesulfonate
A18543	beta-Naphthoflavone, 98+%
J62818	Candesartan, 98%
J61394	Canrenoic acid potassium salt, 98+%
J60238	Canrenone, 98%
J63055	Capsazepine, 98+%
J63549	Cetirizine dihydrochloride, 99+%
J61313	CGS 15943, 95%
J60350	Chloropyramine hydrochloride
J63659	Chlorpromazine hydrochloride, 98+%

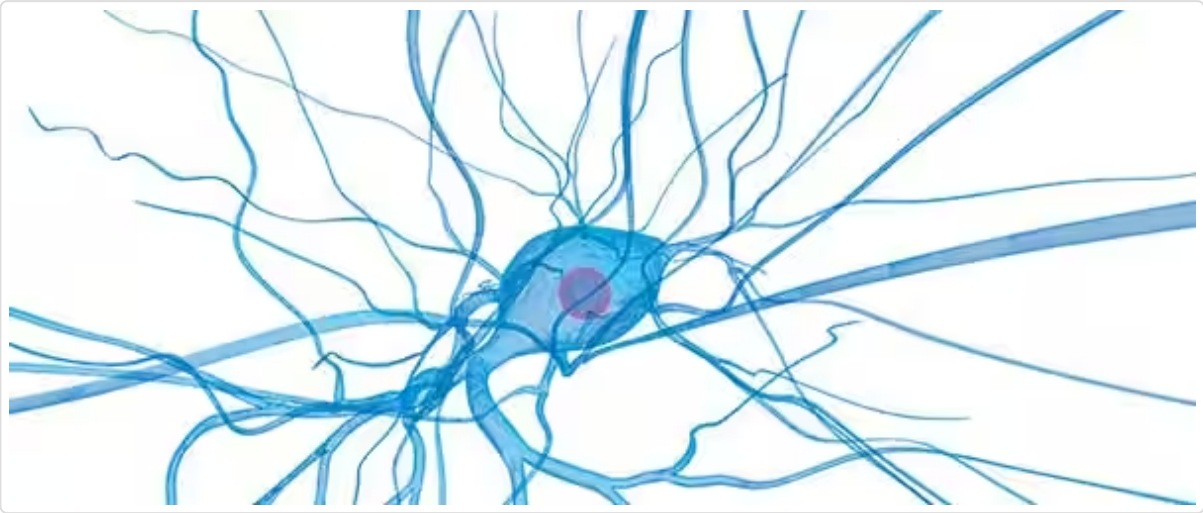
	J62825	Cimetidine, 98+%
	J63370	Cinanserin hydrochloride, 99+%
	J61583	Clozapine, 97%
	J67235	Clozapine N-oxide, 99%
	J67445	(±)-Cyanopindolol hemifumarate salt, 99%
	J61732	Dextromethorphan hydrobromide
	J62804	Dibucaine hydrochloride
	J63634	Dicumarol
	J60638	Dihydroergocristine methanesulfonate
	J63840	Dihydroergotamine methanesulfonate
	J63718	Dimenhydrinate
	A10136	Diphenhydramine hydrochloride, 99%
	J62579	Doxepin hydrochloride
	J63167	Dyphylline

	J63088	Ebastine
	J63165	Famotidine, 98+%
	J63262	Fexofenadine hydrochloride
	J62537	Flumazenil, 98%
	J62384	Ginkgolide A
	J60646	Ginkgolide B
	J60466	Hexamethonium bromide, 98+%
	J60932	Ifenprodil hemitartrate, 99%
	B22473	Imidazole-4-acetic acid monohydrochloride, 97%
	J60453	Ipratropium bromide, 98%
	J62798	Ketanserin tartrate, 98+%
	J63708	Ketotifen fumarate, 99%
	J60190	Loratadine, 98+%
	J61713	Lorglumide sodium salt, 98+%
	J61915	Luzindole, 97%
	J67028	LY 171883, 98%
	J60257	Mecamylamine hydrochloride
	J63830	Memantine hydrochloride

	J63075	Methotrexate
	J61545	Metoclopramide hydrochloride
	J61920	Metoprolol tartrate, 98+%
	J61570	Mianserin hydrochloride
	J63249	Naftopidil hydrochloride, 98+%
	J63550	Nalidixic acid sodium salt
	J60013	Naloxone hydrochloride, 98%
	J60590	Naltrexone hydrochloride
	J67271	N-Arachidonoyl-serotonin, 98%
	J61900	Phenoxybenzamine hydrochloride
	J62252	Pirenzepine dihydrochloride, 99%
	J61712	Prazosin hydrochloride
	J67115	Prostaglandin I2 sodium salt, 99%
	J67487	QNZ, 98%
	J64887	(R)-(-)-2-Amino-5-phosphonopentanoic acid, 99%
	B22260	Ranitidine hydrochloride, 99%
	J63198	Rauwolscine hydrochloride, 99%

J63772	Sotalol hydrochloride, 98%
J60955	Tamoxifen citrate
J61999	Tamsulosin hydrochloride, 98+%
J61441	Telmisartan, 98%
J62055	Terazosin hydrochloride, 99+%
J61936	Terfenadine
J60895	Thioridazine hydrochloride
J67356	(±)-trans-2,5-Bis-(3,4,5-trimethoxyphenyl)-1,3-dioxolane
J61132	Tropicamide, 99+%
J64677	Tropine DL-tropate, 99%
J60222	(+)-Tubocurarine chloride pentahydrate, 98+%
J63219	Urapidil hydrochloride, 98+%
J60185	Yohimbine hydrochloride, 98+%

Signal Transduction Reagents - Ca, Na, K Channel Blockers



Calcium (Ca), sodium (Na) and potassium (K) channels are pore-forming proteins that regulate the flow of these ions across cell membranes. They play key roles in many biological processes, but are especially important in neurotransmission. They are also involved in many biological activities that involve rapid changes in cells such as muscle contraction and T-cell activation. Channel blockers are drug molecules that bind to these protein pores of specific channels and block the ion flow through these channels. This results in the alteration in the electrochemical gradient of the cell membrane. Alfa Aesar provides a range of channel blocking compounds which include Ca, Na and K channel blockers to aid cell signaling research.

A11597	1,2,4-Triazole, 99%
A12699	1-Adamantanamine hydrochloride, 99%
B20044	2,4,7-Triamino-6-phenylpteridine, 98%
A14606	2,5-Di-tert-butylhydroquinone, 98+%
A17485	2-Diethylaminoethyl 4-aminobenzoate hydrochloride, 99%
J61470	4-Aminopyridine, 99+%
J61434	5-Hydroxydecanoic acid sodium salt, 98%
J67152	5-Nitro-2-(3-phenylpropylamino)benzoic acid, 98%
J62528	8-(Diethylamino)octyl 3,4,5-trimethoxybenzoate hydrochloride, 97%
J67281	A-803467, 98%
J62056	Aconitine, 98%
J63829	Alamethicin
J63712	Ambroxol hydrochloride, 98%

	J62168	Amiloride hydrochloride dihydrate
	J62242	Amlodipine, 97+%
	J62164	Amlodipine besylate, 98+%
	J61661	Aniracetam
	A14049	Anthracene-9-carboxylic acid, 98+%
	A13190	BAPTA, 97%
	J61480	(±)-Bay K 8644
	J67189	Bicuculline methobromide, 98%
	J63253	Bifonazole, 99%
	J62302	Bumetanide, 98+%
	J62742	Bupivacaine
	J62835	Bupivacaine hydrochloride monohydrate, 98+%
	J63270	Calmidazolium chloride
	J60231	Calmodulin, bovine testes
	J63245	(+)-cis-Diltiazem hydrochloride
	J67183	Clopamide, 98%

Clopamide acts as a diuretic. It selectively inhibits the chloride the sodium chloride cotransporter.

	J63895	Clotrimazole
	J61594	Cyclopiazonic acid, 98%

	J60887	Dantrolene sodium salt
	J63917	Dizocilpine maleate, 99+%
	J61330	Dyclonine hydrochloride
	J63684	Ethacrynic acid
	J61195	Felodipine
	J63254	Fendiline hydrochloride
	J63527	Flecainide acetate, 98%
	J62969	Flunarizine dihydrochloride, 99%
	J61457	Furosemide, 97+%
	J62032	Glimepiride
	J63398	Glipizide
	B21459	Glybenzcyclamide, 99%
	H56358	Ibutilide hemifumarate salt, 99%
	J63846	Indapamide
	J62448	Ionomycin, 96%
	J60628	Ionomycin calcium salt, 99%
	J63920	Isradipine, 98+%
	J62444	KN-62

	J63035	Lidocaine hydrochloride monohydrate, 98%
	J60678	Lidocaine N-ethyl bromide, 99+%
	J60168	Loperamide hydrochloride, 98+%
	J67098	Lorcainide hydrochloride, 98%
	J60496	Manidipine dihydrochloride
	H37934	Metolazone, 97%
	J61803	Minoxidil
	J67021	Minoxidil sulfate, 98%
	J61269	Nicardipine hydrochloride, 98%
	J60879	Nicorandil, 98+%
	J60489	Niflumic acid, 99+%
	J61349	Nigericin sodium salt, 98+%
	J61287	Nimodipine, 98+%
	J60841	Nitrendipine
	J60724	Ouabain octahydrate, 95%
	J61341	Paxilline, 97+%
	A12517	Phenothiazine, 98+%
	J60648	Prilocaine hydrochloride, 98%

A12559	(+)-Quinidine
J60426	Quinidine sulfate dihydrate, 98+%
A17036	Quinine hemisulfate monohydrate, 98+%
J60937	SKF-96365 hydrochloride, 99+%
A11079	Sodium butyrate, 98+%
A11648	Sodium oxalate, 99%
J60119	Spironolactone
J63328	Tetrahydropalmatine, 98%
J62866	Thapsigargin, 95%
B21698	Tolbutamide, 98%
J61256	Tolfenamic acid, 99+%
J60019	TRAM 34
J67493	U-37883A, 98%
J61535	(±)-Verapamil hydrochloride, 99+%
J62324	Veratridine, 97+%