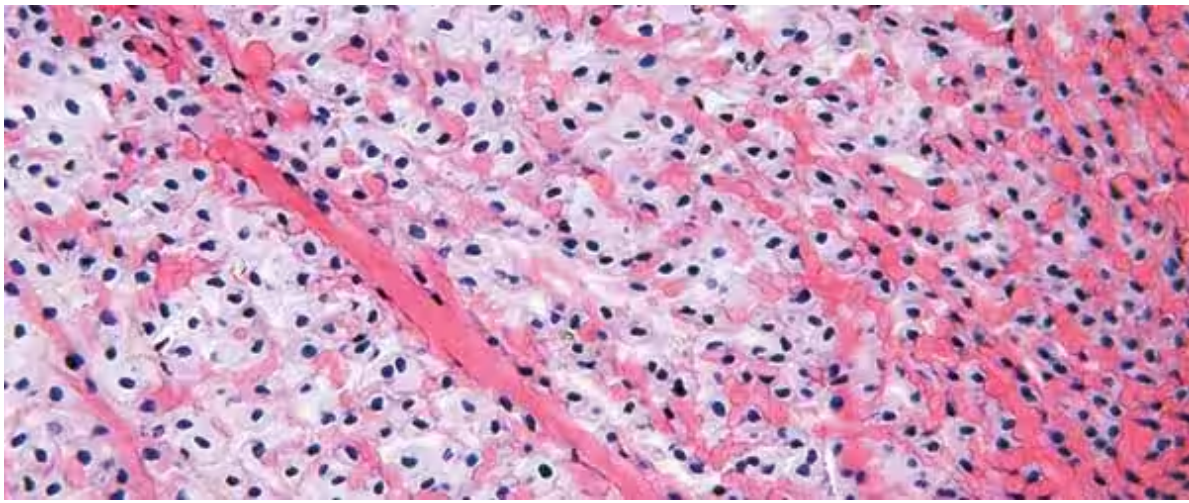


Immunology



Immunology is a biomedical science discipline which mainly covers the immune systems in living systems. Immune responses can be classified as adaptive or innate. Adaptive immunity creates immunological memory after an initial response to a specific pathogen, for example immunity after vaccination. Innate immunity consists of cells and proteins that are always present and ready to mobilize and fight microbes at the site of infection. The main components of the innate immune system are physical epithelial barriers, phagocytic leukocytes, dendritic cells, a special type of lymphocyte called a natural killer cell, and circulating plasma proteins. The innate and adaptive immune systems work together to prevent infections from various hosts. Alfa Aesar offers histology reagents, antibodies, and western blotting reagents that support the immunology research.

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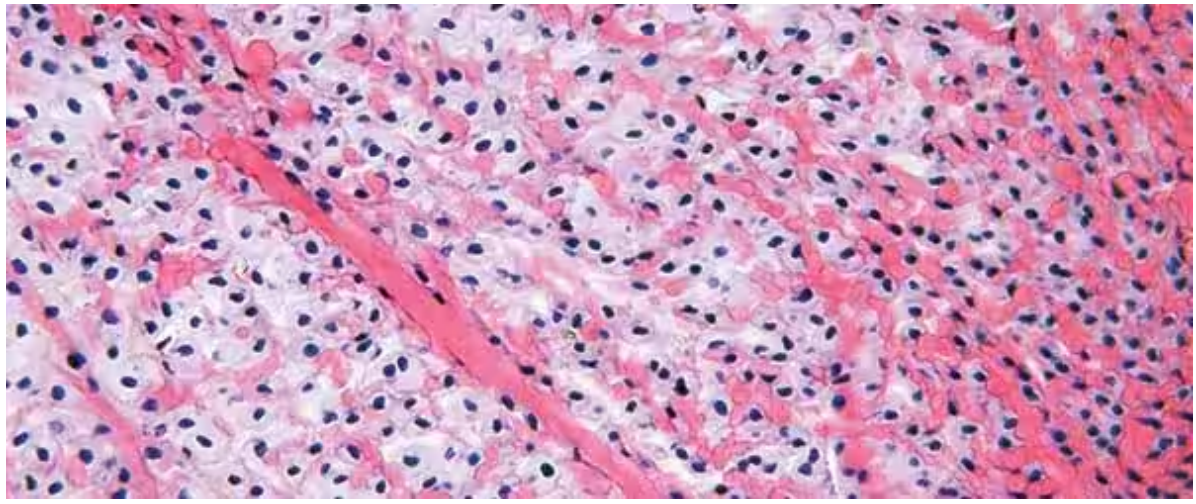
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Antibodies



An antibody, or immunoglobulin, is a protein produced by the immune system when it detects harmful substances called antigens. Typically the antigen is a protein, but polysaccharides, lipids, and nucleic acids can also be antigenic. Antibodies bind antigens preventing them from entering or damaging cells. Antibodies also stimulate removal of antigens by triggering the appropriate antigen destruction pathway in the immune system. Each antibody consists of four polypeptides — two heavy chains and two light chains joined to form a Y shaped molecule. Antibodies are divided into five major classes, IgM, IgG, IgA, IgD, and IgE, based on the type of heavy chains they possess. Different antibodies perform different roles, and help direct the appropriate immune response for each type of antigen they encounter. Alfa Aesar produces antibodies to several cytoskeletal proteins, lipoproteins and growth factors.



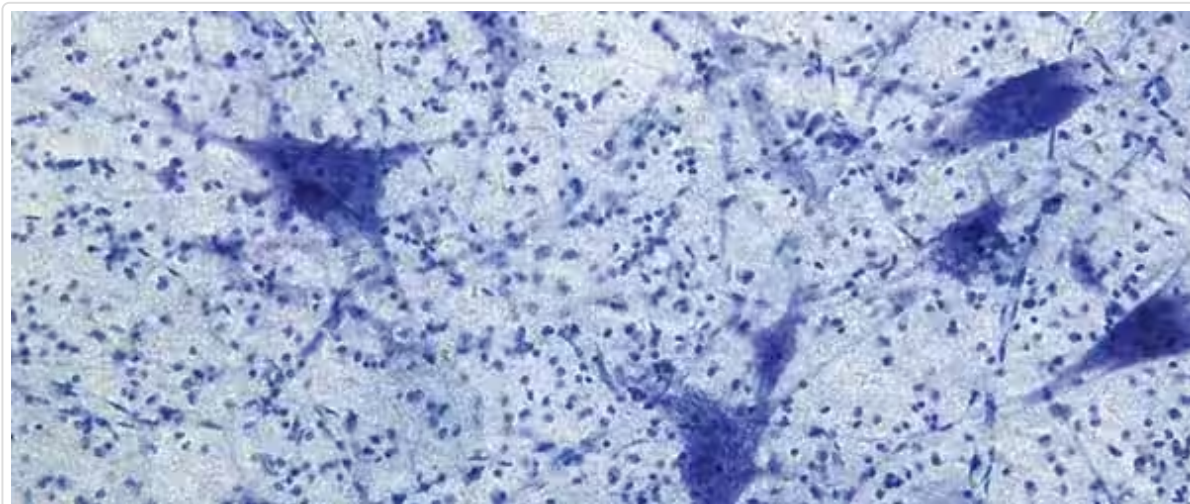
J65602 Human Involucrin Localization Kit, BT-600

Assay kits



Immunoassays detect the presence of macromolecules in a sample through the use of antibodies. Immunoassay kits rely on the ability of an antibody to recognize and bind a specific macromolecule, typically a protein, and generate a measurable signal that corresponds to the binding. Assay kits are commonly used to measure the concentration of proteins in biological samples such as urine, serum, or cell extracts. The assays may come in various formats including colorimetric, fluorescent and chemiluminescent. Alfa Aesar offers several colorimetric immunoassay kits for a variety of proteins and small molecules. Our immunoassay kits are simple, reproducible and highly specific tools for accurate determination in biological samples.

Histology Reagents



Histology is the study of the plant and animal cellular organization under a microscope. It often involves the preservation, sectioning and staining of tissues before examination by light or electron microscopy.

Histology reagents serve different purposes. Some reagents, called fixatives, are designed to preserve the structural integrity of a specimen so that it can be viewed microscopically. They prevent tissue degradation and maintain the cell structures so that samples do not decay during a microscopy experiment. Fixatives cause crosslinking of proteins, so that organelles and other sample components maintain their in vivo relationship to each other. Common fixatives include aldehydes and alcohols such as formaldehyde, paraformaldehyde, ethanol and methanol.

Other widely used histology reagents are dyes. These reagents are used to enhance contrast between different structures in a cellular sample. Stains can be specific for certain organelles, structures or even molecules.

Alfa Aesar supplies many commonly used fixatives and stains for histology procedures

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Electrophoresis Products


















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	A17739	1,3-Dihydroxynaphthalene, 98%
	J65535	2,2'-Azino-bis(3-ethylbenzothiazoline-6-sulfonic acid) diammonium salt, 98%
	A10870	2,3,5-Triphenyl-2H-tetrazolium chloride, 98%
	A10107	2,6-Dichloroindophenol sodium salt hydrate
	J63698	2,9-Dimethyl-1,10-phenanthroline, 98%
	A11398	2,9-Dimethyl-1,10-phenanthroline hemihydrate, 98+%
	B22769	2-Aminofluorene, 98%
	B21561	2-Chloro-4-nitrophenol, 97%
	J60972	3,3'-Diaminobenzidine, tablets
	J62216	3,3'-Diaminobenzidine tetrahydrochloride hydrate, 97%
	L18567	3,5-Dihydroxytoluene, 99%
	A18226	4',5'-Dibromofluorescein, ca. 95% dye content
	J65814	4-Aminophenyl phosphate monosodium salt hydrate, 97%
	J64921	4-Aminophthalhydrazide, 98%



















	43402	4-Bromomethyl-6,7-dimethoxycoumarin, 95%
	A14165	4-Chloro-7-nitrobenzofurazan, 98%
	J61336	4-Fluoro-7-nitrobenzofurazan
	J61401	4-Nitrophenyl phosphate disodium salt hexahydrate, 5mg tablets
	L13439	5(6)-Carboxyfluorescein, mixture of isomers, 97%
	J62258	5(6)-Tetramethylrhodamine isothiocyanate
	H66949	5-Carboxyfluorescein, single isomer, 97%
	A15393	6,7-Dihydroxycoumarin, 98+%
	A15017	7-Amino-4-methylcoumarin, 98%
	J62987	7-Ethoxyresorufin
	J62475	7-Methoxycoumarin-4-acetic acid
	B22222	Acid Fuchsin sodium salt
	L01657	Acridine, 97%
	J60048	Acriflavine hydrochloride
	A14404	Alizarin, 94%
	42040	Alizarin Red S sodium salt
	38707	Alizarin Yellow R sodium salt
	J61978	Amido Black 10B, 0.2% v/v soln. in 5% acetic acid
	J63031	Arsenazo III


















	A11838	Arsenazo III disodium salt
	J60343	Auramine O, 80% dye content
	J61346	Azure A
	J64515	Azure C
	A17508	Azure I
	A11777	Azure II
	A12952	Basic Fuchsin
	B22841	Bathocuproin, 98%
	B22550	Bathocuproin sulfonate disodium salt hydrate, 97%
	A14258	Bathophenanthroline, 98+%
	J64901	Benzopurpurin 4B
	J65603	Biebrich Scarlet sodium salt
	J65226	Biliverdin hydrochloride
	J62134	bis-Benzimide H-33342 trihydrochloride trihydrate, 98%
	J64757	Bismarck Brown R
	A16674	Bismarck Brown Y
	L00812	Biuret, 97%














	A12502	Blue Tetrazolium chloride
	J61522	Bradford Dye Reagent, Ready-to-Use soln.
	A12801	Brilliant Green
	38696	Bromocresol Green sodium salt, 0.04% w/v aq. soln.
	38700	Bromocresol Purple sodium salt, 0.04% w/v aq. soln.
	32641	Bromophenol Blue, ACS
	38693	Bromophenol Blue sodium salt, 0.04% w/v aq. soln.
	38701	Bromothymol Blue sodium salt, 0.04% w/v aq. soln.
	B21482	Calmagite, indicator grade
	A14242	Chicago Sky Blue 6B
	A13259	Chlorazol Black E
	B21623	Chlorophenol Red
	L10364	Chlorophenol Red sodium salt
	38699	Chlorophenol Red sodium salt, 0.04% w/v aq. soln.
	J64999	Chrysophenine sodium salt
	J66823	Coelenterazine, native, Aequorea sp.
	B24310	Congo Red, indicator grade



















	L07133	Coumarin-3-carboxylic acid, 98%
	A15336	Coumarin, 98%
	B21361	Cresol Red sodium salt
	J64318	Cresyl Violet acetate
	J66876	Crocein Scarlet 7B, >70% dye content
	B21932	Crystal Violet
	22866	Crystal Violet, ACS, 90+%
	A16551	Cupferron, 97+%
	A13828	Dansyl chloride, 96%
	J65759	Dihydrofluorescein diacetate, 97%
	A16554	Diiodofluorescein
	B21693	Direct Red 80
	A17377	Eosin B
	B24535	Eosin Yellowish
	J63396	Eriochrome® Blue Black B
	J61780	Erioglaucine sodium salt
	A14180	Erythrosin B

















	J62619	Erythrosin B, spirit soluble
	J62863	Ethyl Orange sodium salt
	J63951	Ethyl Violet
	A16774	Evans Blue
	J62456	Fast Blue BB base
	L09704	Fast Blue BB salt
	J60574	Fast Garnet GBC base
	A18577	Field's Stain A
	A18578	Field's Stain B
	43749	Fluorescamine
	L13251	Fluorescein
	J62175	Fluoresceinamine, isomer I, 96%
	J61549	Fluorescein disodium salt
	A11659	Fluorescein disodium salt hydrate
	L09319	Fluorescein isothiocyanate, isomer 1, 95%
	J62728	FURA 2-AM

	J63686	FURA 2 pentasodium salt
	B21172	Giemsa Stain
	A12431	Hematoxylin hydrate, 96% (dry wt.), water ca 6%
	A16052	Indigo carmine
	B22301	Iodonitrotetrazolium violet, 95%
	A17391	Janus Green B
	J61077	Jenner's Stain
	A11644	Leishman Stain
	B23330	Light Green SF Yellowish
	A16186	Malachite Green oxalate
	B24338	m-Cresol Purple
	A18025	m-Cresol Purple sodium salt
	38691	m-Cresol Purple sodium salt, 0.04% w/v aq. soln.
	A17527	Metanil Yellow
	42747	Methyl Green, 0.1% w/v aq. soln.
	A17604	Methyl Orange
	38695	Methyl Orange, 0.1% w/v aq. soln.
	A16690	Methyl Red

	38698	Methyl Red, 0.1% w/v solution in ethanol
	36682	Methyl Red, ACS
	36668	Methyl Red hydrochloride, ACS
	36667	Methyl Red sodium salt, ACS
	J66382	N-(5-Aminopentyl)biotinamide trifluoroacetate salt
	A18268	Naphthol Green B
	J63054	Neutral Red
	J61186	Nigrosin, alcohol soluble
	A18147	Nigrosin water soluble
	A17174	Nile Blue A
	43846	Ninhydrin, ACS reagent
	J60281	Nitrazine Yellow
	J60230	Nitro Blue Tetrazolium chloride, 98+%
	J61010	Nuclear Fast Red Soln., enhanced stability
	A12899	o-Cresolphthalein
	L03859	o-Cresolphthalein complexone, indicator grade
	A17150	o-Dianisidine, 98+%

	A17175	o-Dianisidine dihydrochloride, 98%
	A12989	Oil Red O
	B20294	Orcein, for analysis
	47317	Paraformaldehyde, 10% w/v aq. soln., methanol free
	47338	Paraformaldehyde, 15% w/v aq. soln., methanol free
	43368	Paraformaldehyde, 16% w/v aq. soln., methanol free
	47340	Paraformaldehyde, 20% w/v aq. soln., methanol free
	47377	Paraformaldehyde, 32% w/v aq. soln., methanol free
	47392	Paraformaldehyde, 4% w/v aq. soln., methanol free
	47347	Paraformaldehyde, 8% w/v aq. soln., methanol free
	38703	Phenolphthalein, 0.5% w/v in alcohol
	J61785	Phenolphthalein, 2% soln. in 95% ethanol
	A17135	Phenolphthalein, 98%

	38702	Phenol Red sodium salt, 0.02% w/v aq. soln.
	15987	Phenol Red sodium salt, ACS
	J66764	Propidium iodide
	J66584	Propidium iodide, 1mg/ml aqueous soln.
	L11252	Pyranine
	B21187	Resazurin sodium salt
	J62315	Rhodamine 6G
	A13572	Rhodamine B
	A13622	Rhodanile Blue
	B21674	Safranin O
	43970	Silver protein for histology, strong
	A15395	Solvent Blue 38
	H32127	Stains-All, 96%
	J62268	Sudan Black B
	A17613	Sudan II
	A18318	Sudan III
	A12181	Sudan IV
	A10486	Sulfonazo III salt

	J60581	Sulforhodamine 101 acid chloride
	A14769	Sulforhodamine B sodium salt
	A17682	Tartrazine
	B20123	Tetrabromophenol Blue
	J61080	Tetranitro blue tetrazolium chloride, 97%
	L11939	Thiazolyl Blue tetrazolium bromide, 98%
	J61043	Thioflavine T, tech. 75%
	B21370	Thymol Blue
	16272	Thymol Blue, ACS
	38692	Thymol Blue sodium salt, 0.04% w/v aq. soln.
	38706	Thymolphthalein, 0.05% w/v solution in ethanol
	16245	Thymolphthalein, ACS
	J66015	Toluidine Blue O, Certified, 65% min dye content
	A18600	Trypan Blue, dye content >60%
	A17903	Wright's Stain
	J61726	XTT sodium salt

Western Blot and ELISA Reagents



Western blotting and ELISA are analytical techniques used to detect specific proteins in a biological sample. Both techniques rely on immunodetection of an antibody to a specific protein. Western blotting is used to detect a specific target protein out of a complex protein mixture. A protein mixture is separated by polyacrylamide gel electrophoresis before transfer to a membrane. Antibody binding to the target protein on the membrane can then be detected by various methods. Like Western blots, ELISA is used to detect peptides in a mixture. ELISA also allows quantification of the antigen in question. With ELISA and Western blotting, the presence and/or amount of the antigen is determined directly or indirectly by an enzyme (usually horseradish peroxidase or alkaline phosphatase)-, biotin- or fluorophore-conjugated antibody. Depending on the substrates used, the conjugated enzymes can be detected by colorimetric, fluorescent or chemiluminescent techniques. Alfa Aesar offers a variety of reagents for Western blotting including enzyme substrates and blocking, transfer and washing buffers.













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	A13868	3,3',5,5'-Tetramethylbenzidine, 98%
	J60332	3,3',5,5'-Tetramethylbenzidine dihydrochloride, 98%
	J61325	3,3',5,5'-Tetramethylbenzidine soln., Ready-to-Use, high sensitivity
	J62143	3,3',5,5'-Tetramethylbenzidine soln., Ready-to-Use, precipitating, high sensitivity
	J60461	3,3',5,5'-Tetramethylbenzidine soln., Ready-to-Use, precipitating, standard sensitivity
	J63202	3,3',5,5'-Tetramethylbenzidine soln., Ready-to-Use, standard sensitivity
	B22529	3-Amino-9-ethylcarbazole, 95%
	J60552	3-Indoxyl phosphate disodium salt
	J63283	BCA Protein Assay Kit
	J61417	BLOTTO
	J61880	BLOTTO and Tween 20 in PBS
	J62304	BLOTTO and Tween 20 in PBS, with 0.02% sodium azide

J62341	BLOTTO and Tween 20 in TBS
J63026	BLOTTO and Tween 20 in TBS, with 0.02% sodium azide
J63851	BLOTTO antifoam in PBS
J61888	BLOTTO antifoam in PBS, with 0.02% sodium azide
J62031	BLOTTO antifoam in TBS
J63891	BLOTTO antifoam in TBS, with 0.02% sodium azide
J60296	BLOTTO in PBS
J60166	BLOTTO in PBS, with 0.02% sodium azide
J63238	BLOTTO in TBS
J62235	BLOTTO in TBS, with 0.02% sodium azide
J64508	Bolton-Hunter Reagent
J61655	BSA blocking buffer, 3% in PBS
J60473	BSA blocking buffer, 3% in PBS, with 0.02% sodium azide
J61116	BSA blocking buffer, 3% in PBS, with 0.05% Tween-20
J61119	BSA blocking buffer, 3% in TBS
J62554	BSA blocking buffer, 3% in TBS, with 0.05% Tween-20
J61089	BSA blocking buffer, 5% in PBS
J63711	BSA blocking buffer, 5% in PBS, with 0.05% Tween-20
J62637	BSA blocking buffer, 5% in TBS

J62305	BSA blocking buffer, 5% in TBS, with 0.02% sodium azide
J60098	BSA blocking buffer, 5% in TBS, with 0.05% Tween-20
J60289	Casein blocking buffer, 3% in PBS
J63453	Casein blocking buffer, 3% in PBS, with 0.02% sodium azide
J61298	Casein blocking buffer, 3% in TBS
J62935	Casein blocking buffer, 3% in TBS, with 0.02% sodium azide
J63028	C-Reactive Protein
J62416	Denhardt's solution (100X)
J63135	Denhardt's solution (50X)
J63444	Diatrizoic acid
J63160	FCS blocking buffer in PBS
J61327	FCS blocking buffer in TBS
J60939	Gelatin and Tween 20 in PBS
J62479	Gelatin and Tween 20 in PBS, with 0.02% sodium azide
J62272	Gelatin and Tween 20 in TBS
J61671	Gelatin and Tween 20 in TBS, with 0.02% sodium azide
J62755	Gelatin blocking buffer, 1% in PBS
J60455	Hybridization solution in SSC
J61462	Luminol and oxidizing solutions (each bottle)

J60275	Neutralization solution
J61850	N-(gamma-Maleimidobutyryloxy)succinimide
J61410	N-Succinimidyl 3-maleimidobenzoate, 95%
J60354	o-Phenylenediamine dihydrochloride, 98+%
J61899	Paraformaldehyde, 4% in PBS
J61984	Paraformaldehyde fixative solution
J63486	Plasmid DNA isolation solution II
J60196	Plasmid DNA isolation solution III
J63618	Prehybridization solutions in SSC
J63209	Saponin permeating solution, 0.5% w/v soln. in PBS (10X)
J63664	Semi dry blot transfer buffer (10X)
J62023	Stripping buffer-2 (4X)
J60925	Stripping buffer (4X)
J63596	Tween 20 washing buffer, 0.5% in PBS (10X)
J60304	Tween 20 washing buffer, 0.5% in PBS (10X)
J62844	Tween 20 washing buffer, 1.0% in PBS (20X)
J63314	Tween 20 washing buffer, 1% in PBS (10X)
J61419	Tween 20 washing buffer, 2% in PBS (20X)



J60990 Tyramine, 98+%

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