

# Protein iDentification

For Life Science Research

- > **Recombinant** proteins
- > **Labelling** kits and reagents
- > **Protein analysis** products
- > **Assay** kits



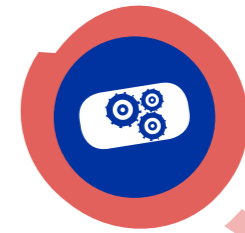


## COMPREHENSIVE OFFER

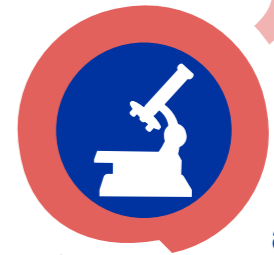
Our extensive experience in the synthesis of dyes and peptide-based substrates for assay development lends us a unique understanding of your detection needs and challenges.

## CUSTOM & CATALOGUE INNOVATION

We are actively committed to developing new products and improving our existing products and services to help solving your detection issues and saving you time.



**Recombinant protein**  
manufacturing  
service and *in vitro*  
production kits



Precasted gels,  
WB kits, devices  
and consumables  
**for protein  
analysis**



**iD SensoLyte® FRET**  
based assays,  
assay development  
and protein labelling  
services

## Protein iDentification

Recombinant proteins

Fluorescent dyes and reagents

Protein analysis

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Protein iDentification

Recombinant proteins

Fluorescent dyes and reagents

Protein analysis

# Recombinant proteins

### DID YOU KNOW

The Eurogentec Biologics division performs the production of GMP proteins for pharmaceutical use and commercialisation.  
<http://biologics.eurogentec.com>

### ALSO AVAILABLE

- > Protein Labelling with Fluorescent dyes, and quenchers
- > Protein-peptide conjugation (KLH, BSA, OVA)

## ➤ CUSTOM RECOMBINANT PROTEIN PRODUCTION

Eurogentec produces research grade recombinant proteins according to the customer's specifications. The protein production can be performed in various hosts such as *Pichia pastoris*, baculovirus, *Escherichia coli*, HEK or CHO cells.

While larger projects can be performed, the typical protein amount produced is 2 to 10 mg and a classical application is the use of the recombinant protein as antigen for antibody generation.

To start discussing your project, please contact us at [proteomics.services@eurogentec.com](mailto:proteomics.services@eurogentec.com)

The protein can be delivered with a purity level from 85% up to more than 90%. Additionally, we can label the protein with tags and dyes.

Each project begins with a discussion prior to gene optimisation, cloning and expression. A pilot phase is always performed to determine the gene expression level. Only fulfilled steps are invoiced.

GeneFrontier



### ORDERING INFORMATION

Description	Amount	Catalogue#
PUREfrex™	250 µL	PS-PF001-025

## PUREfrex™

**Cell-free protein production** systems aim at producing small amounts of proteins *in vitro* in only 2 to 4 hours. They correspond to a reconstituted *E.coli* transcription/translation machinery which only requires the DNA sequence encoding the target protein in a T7-based system. It works optimally for producing bacterial proteins, and favours the use of DNA sequences optimised for *E.coli* codon usage.

Our PUREfrex™ kit is designed to perform 10 reactions of 25 µL each.

PUREfrex™ is developed for in vitro research use only. PUREfrex™ should not be used for the therapy, diagnostic or administration to animals including human and should not be used as food or cosmetics etc. For information concerning commercial use of PUREfrex™, please contact GeneFrontier: [contactus@genefrontier.com](mailto:contactus@genefrontier.com). PUREfrex™ is a trademark of GeneFrontier Corp.

## ➤ CATALOGUE RECOMBINANT PROTEINS

Our catalogue recombinant proteins cover the most common proteins mainly related to neurosciences and cancer research. Our portfolio includes Myelin Oligodendrocyte

Glycoprotein (MOG, Multiple sclerosis), Tau (Alzheimer's disease), Synuclein and DJ-1 (Parkinson's disease) and MMP's (tissue remodelling). ■



### ORDERING INFORMATION

Product	Quantity	Size	Product	Quantity	Size
<b>Parkinson's</b>			<b>Multiple sclerosis</b>		
<b>DJ-1</b>			<b>Myelin Oligodendrocyte Glycoprotein</b>		
AS-72219-10	DJ-1 (PARK7), Recombinant human	10 µg	AS-55150-100	Recombinant mouse MOG (1-125)	100 µg
AS-72219-100	DJ-1 (PARK7), Recombinant human	100 µg	AS-55150-500	Recombinant mouse MOG (1-125)	500 µg
AS-72219-500	DJ-1 (PARK7), Recombinant human	500 µg	AS-55150-1000	Recombinant mouse MOG (1-125)	1000 µg
AS-72220-10	DJ-1 (PARK7), Recombinant human, GST Tagged	10 µg	AS-55152-100	Recombinant rat MOG (1-125)	100 µg
AS-72220-100	DJ-1 (PARK7), Recombinant human, GST Tagged	100 µg	AS-55152-500	Recombinant rat MOG (1-125)	500 µg
<b>Synuclein</b>			AS-55152-1000	Recombinant rat MOG (1-125)	1000 µg
AS-55456-500	Recombinant human alpha-synuclein (1-140)	500 µg	AS-55158-100	Recombinant human MOG (1-125)	100 µg
AS-55456-1000	Recombinant human alpha-synuclein (1-140)	1 mg	AS-55158-500	Recombinant human MOG (1-125)	500 µg
AS-55457	Recombinant human alpha-synuclein (1-140), HiLyteFluor™488 labeled	200 µg	AS-55158-1000	Recombinant human MOG (1-125)	1000 µg
AS-55581	Recombinant human alpha-synuclein (1-140), biotin labeled	200 µg	<b>Cardiovascular</b>		
AS-55555-100	Recombinant human alpha-Synuclein, EndoFree	100 µg	<b>Renin</b>		
AS-55555-500	Recombinant human alpha-Synuclein, EndoFree	500 µg	AS-72041	Human Renin, Recombinant	5 µg
AS-55555-1000	Recombinant human alpha-Synuclein, EndoFree	1 mg	AS-72141	Rat Renin, Recombinant	20 µg
AS-55458-100	Recombinant human beta-Synuclein (1-134)	0.1 mg	AS-72174	Mouse Prorenin, Recombinant	20 µg
AS-55458-500	Recombinant human beta-Synuclein (1-134)	0.5 mg	<b>Epigenetics</b>		
AS-55458-1000	Recombinant human beta-Synuclein (1-134)	1 mg	<b>Sirtuin</b>		
<b>Cancer &amp; Apoptosis</b>			AS-72187	Human Sirtuin 2, Recombinant	10 µg
<b>Matrix Metalloproteinases</b>			AS-72212	Human Sirtuin 1, Recombinant	10 µg
AS-72004	Human MMP-1	100 µL	<b>Viral &amp; bacterial Proteases</b>		
AS-72005	Human MMP-2	100 µL	<b>Virus</b>		
AS-72006	Human MMP-3	100 µL	AS-61017-5	HCV NS3/4A protease genotype 1b, recombinant	5 µg
AS-72007	Human MMP-7	100 µL	AS-61017-10	HCV NS3/4A protease genotype 1b, recombinant	10 µg
AS-72008	Human MMP-8	100 µL	AS-72028-5	HIV-1 Protease, recombinant	5 µg
AS-72067	Human MMP-10	100 µL	AS-72081-5	West Nile Virus NS3 Protease, recombinant	5 µg
AS-72011	Human MMP-13	100 µL	AS-72081-100	West Nile Virus NS3 Protease, recombinant	100 µg
AS-72068	Human MMP-14	100 µL	<b>Bacteria</b>		
AS-55575-1	Human MMP-1 (Recombinant, Catalytic Domain)	1 µg	AS-72229	Sortase A protease, Recombinant	10 µg
AS-55575-10	Human MMP-1 (Recombinant, Catalytic Domain)	10 µg	<b>Also available: Cell Extracts</b>		
AS-55576-1	Human MMP-9 (Recombinant, Catalytic Domain)	1 µg	AS-29515	3T3 Whole Cell Lysate	200 µg
AS-55576-10	Human MMP-9 (Recombinant, Catalytic Domain)	10 µg	AS-29517	Hela Whole Cell Lysate	200 µg
AS-55576-50	Human MMP-9 (Recombinant, Catalytic Domain)	50 µg	AS-29519	MCF-7 Whole Cell Lysate	200 µg
AS-55884-1	Mouse MMP-9 (Recombinant, Catalytic Domain)	1 µg	AS-29520	HEK293 Whole Cell Lysate	200 µg
AS-55884-10	Mouse MMP-9 (Recombinant, Catalytic Domain)	10 µg	AS-55362	Raji Whole Cell Lysate	200 µg
AS-55884-50	Mouse MMP-9 (Recombinant, Catalytic Domain)	50 µg	<b>Alzheimer's</b>		
AS-55525-1	Human MMP-12 (Recombinant, Catalytic Domain)	1 µg	<b>Tau</b>		
AS-55525-10	Human MMP-12 (Recombinant, Catalytic Domain)	10 µg	AS-55556-100	Tau (Tau-441), human recombinant	100 µg
AS-55525-50	Human MMP-12 (Recombinant, Catalytic Domain)	50 µg	AS-55556-50	Tau (Tau-441), human recombinant	50 µg
<b>Alzheimer's</b>			AS-55557-100	Tau (Tau-441), human recombinant, GST tagged	100 µg
<b>Tau</b>			AS-55557-50	Tau (Tau-441), human recombinant, GST tagged	50 µg

# Dyes and reagents

Fluorescent reagents are used extensively to trace the presence of biomolecules in cells and other biological systems. The great advancement of fluorescence reagents has promoted a host of more complex fluorescence technologies such as fluorescence resonance energy transfer (FRET), time-resolved fluorescence (TR F), fluorescence polarization (FP), fluorescence recovery after photobleaching (FRAP), fluorescence activated cell sorting (FACS) and fluorescence correlation spectroscopy (FCS). Excitation and emission wavelength, fluorescence quantum yield, fluorescence lifetime, size, photostability and biological functionality are important factors to be considered in selection of a desired fluorescent probe for your applications. ■

## ➤ LABELLING DYES, QUENCHERS AND KITS

We are pleased to support the scientific community by providing a broad range of premium stand-alone reactive dyes, fluorophore-quencher pairs and AnaTag™ labelling kits for varied labelling and detection applications. ■

## Dyes and Quenchers

Dyes are widely used to modify amino acids, peptides, proteins (in particular, antibodies), oligonucleotides, nucleic acids, carbohydrates etc,

and to detect cellular organelles and molecules. Our full spectrum of dyes covers all detection channels, and can be paired with our QXL®

quenchers for use in FRET (fluorescence resonance energy transfer).



## APPLICATIONS

- > 2-photon/confocal microscopy
- > Flow cytometry
- > *In-vivo* imaging
- > HTS detection of proteases
- > Protein-peptide interaction

## BENEFITS

- > Full spectrum covering all detection channels
- > Several reactive (amine, thiol, carbonyl) forms available

Dye*	Ex/ Em (nm)	Quencher	Absorbance (nm)
Mca	325/393	Dnp	350
EDANS	335/493	DABCYL, DABCYL Plus™, QXL® 490	472, 485, 485
FAM	492/518	QXL®520**	508-530
FITC	494/519	QXL®520**	508-530
HiLyte™ Fluor 488	502/527	QXL®520**	508-530
CyLyte Fluor 3	554/568	QXL®570	577
HiLyte™ Fluor 532	545/565	QXL®570	577
HiLyte™ Fluor 555	552/569	QXL®570	577
TAMRA	547/574	QXL®570	577
Rox	568/591	QXL®610	628
HiLyte™ Fluor 647	649/674	QXL®670	668
CyLyte Fluor 5	649/666	QXL®670	668

\*All dyes listed in this table can be used as stand done fluorescent tag

\*\*Available only for custom services



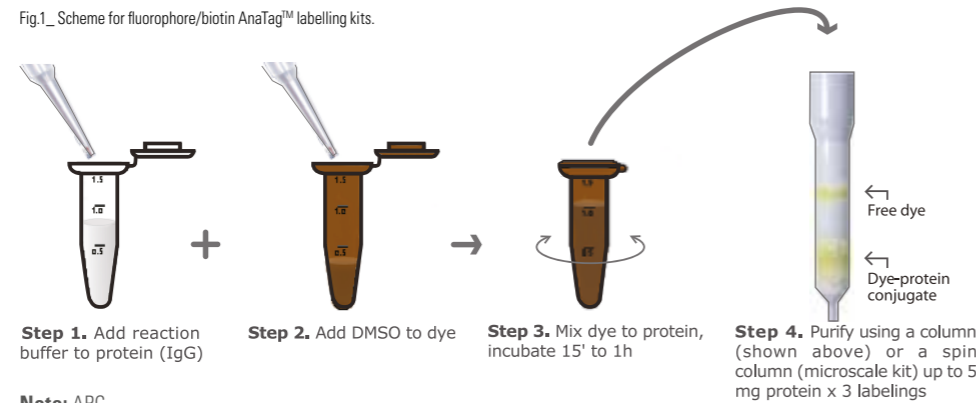
# AnaTag™ protein labelling kits

AnaTag™ kits provide a convenient way to label your proteins, such as those used as reagents in immunofluorescence staining, fluorescence *in situ* hybridisation, flow cytometry and other biological applications. The kits use succinimidine ester (NHS ester) conjugates, which react with the amine groups of the target protein to form stable carboxamide bonds. Please note that AnaTag™ are not convenient to label peptides.

## BENEFITS

- > FAST labelling
- > STABLE dye-protein conjugations
- > CONVENIENT format
- > ALL ESSENTIAL components for conjugation reactions and purification of dye-protein conjugates available.

Fig.1\_Scheme for fluorophore/biotin AnaTag™ labelling kits.



**Note:** APC, B-PE, and R-PE fluorescent protein kits, make use of an SMCC conjugation method.



## ORDERING INFORMATION

Catalogue #			
Label	Abs/Em (nm)	REACTION SIZE	REACTION SIZE
		3 x 5 mg	3 x 200 µg
FLUOROPHORES			
AMCA-X	353/442	AS-72055	AS-72056
5-FITC	494/519	AS-72059	AS-72060
HiLyte™ Fluor 488	502/527	AS-72047	AS-72048
5 TAMRA	547/574	AS-72063	AS-72064
HiLyte™ Fluor 555	552/569	AS-72045	AS-72046
HiLyte™ Fluor 647	649/674	AS-72049	AS-72050
HiLyte™ Fluor 750	754/778	AS-72043	AS-72044
FLUORESCENT PROTEINS			
APC	650/660	AS-72111 (1x1mg)	n.a.
B-PE	545/575	AS-72112 (1x1mg)	n.a.
R-PE	565/575	AS-72113 (1x1mg)	n.a.
BIOTIN			
Biotin	n.a.	AS-72057 (3x10mg)	AS-72058

## FLUORESCENT PROTEINS AND REAGENTS

Our extensive repository of fluorescent proteins and reagents used in conjugation applications include:

- Biotinylating reagents (targeting several functional groups),
- Biotin-binding affinity-purified streptavidins,
- Fluorescent tags and their conjugates including phycobiliproteins and recombinant protein A applicable for a variety of conjugation-specific cellular and immune functional studies. ■

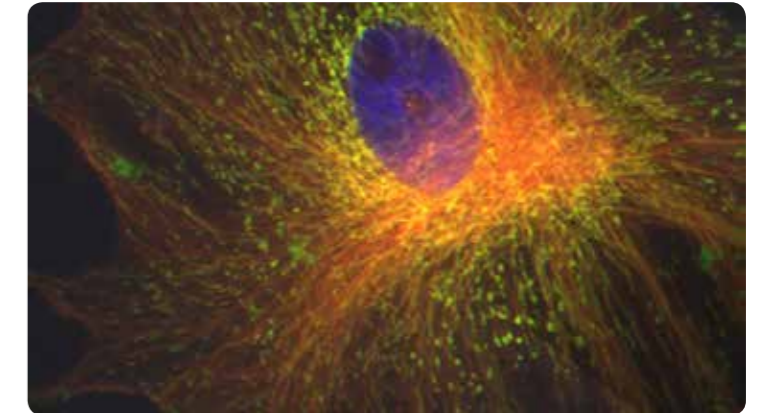


Fig.2\_alpha-tubulins of bovine pulmonary artery endothelial cells probed with biotin-conjugated mouse anti-alpha-tubulin, visualized with HiLyte™ Fluor™ 647 conjugated streptavidin. Mitochondria were detected with mouse anti-Oxphos V complex, visualized with HiLyte Fluor™ 488-conjugated goat anti-mouse, nuclei stained with DAPI.

## Biotins and Streptavidins

The streptavidin-biotin interaction, at a dissociation constant of (Kd) on the order of  $\sim 10^{-14}$  mol/L is one of the strongest non-covalent interactions known in nature, typically occurring

between a protein and a ligand. The complex is resistant to pH, organic solvents and other denaturing agents making this interaction very stable and hence attributes to its

importance in a number of biological applications including Western blotting, IHC, ELISA and FACS.



## ORDERING INFORMATION

### APPLICATIONS

	PRODUCT	Abs/Em (nm)	CAT #
The basics	Biomolecules labelling and further detection with streptavidin/avidin	n.a.	AS-21100 AS-21101
	More polar than biotin; used for cell tracing	n.a.	AS-60638
	The long chain (LC) helps reduce the sterical hindrance when binding to avidins	n.a.	AS-21112
The reactive forms	Biotin-X NTA	n.a.	AS-60655
	For carbohydrates and nucleic acids: reacts with exposed aldehyde groups formed in damaged DNA	n.a.	AS-60645
	Carboxy and carbonyl groups-reactive; substrate for transglutaminase	n.a.	AS-60648
Fluorescent biotins	Biotin C2 maleimide	n.a.	AS-60643
	Thiol-reactive	n.a.	N-(Biotinoyl)-N'-(iodoacetyl) ethylenediamine AS-60644
	Green fluorescence	494/518	Biotin fluorescein AS-60656
Biotin quantitation kits	Better binding and stronger fluorescence than Biotin fluorescein	494/523	Biotin-4-fluorescein AS-60654
	Orange fluorescence	554/581	Biocytin TMR AS-60658
		n.a.	Biotin Quantitation Kit AS-72096
		n.a.	SensoLyte® Biotin Quantitation Kit AS-72163

## Streptavidin and Conjugates

## Phycobiliproteins and Conjugates

Phycobiliproteins are natural fluorescent proteins present in cyanobacteria and some algae. B-PE and the closely related R-PE are the most intensively fluorescent ones. They are significantly brighter and more photostable than conventional organic dyes.

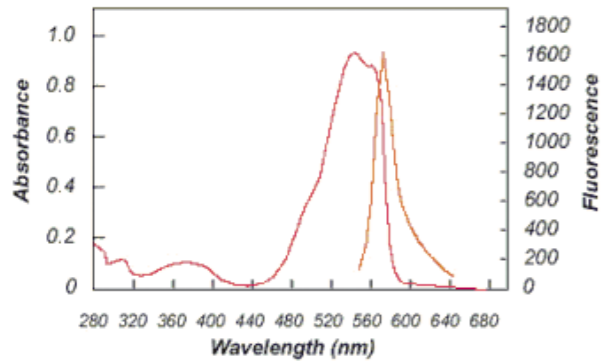


Fig.3\_Spectra of B-Phycocerythrin analysis or primary antibodies in IHC.

## Recombinant Protein A Conjugates

Protein A binds to the Fc domain of IgG's from most mammals. When conjugated to biotin or fluorescent dyes, it can be used as a universal detection reagent for primary antibodies.



### ORDERING INFORMATION

PRODUCT	Abs/Em (nm)	CAT #
<b>Immuno-fluorescence assays</b>		
Streptavidin	n.a.	AS-60659
Streptavidin, recombinant	n.a.	AS-72177-5 AS-72177-100 AS-72177-500 AS-72177-1000
Streptavidin, HRP conjugated	n.a.	AS-60668
Streptavidin, 5 - TAMRA conjugated	541/568	AS-60670
Streptavidin, FITC conjugated	495/520	AS-60659-FITC
Streptavidin, HiLyte™ Fluor 488 conjugated	495/524	AS-60665
Streptavidin, HiLyte™ Fluor 555 conjugated	555/565	AS-60666
Streptavidin, HiLyte™ Fluor 647 conjugated	650/668	AS-60667
Streptavidin, HiLyte™ Fluor 750 conjugated	754/778	AS-60659-H750
Streptavidin, B - phycocerythrin conjugated	545/575	AS-60662
Streptavidin, crosslinked allophycocyanin conjugated	652/662	AS-60663
Streptavidin, R - phycocerythrin conjugated	565/575	AS-60669
<b>Kit</b>		
HiLyte™ Fluor Labelled Streptavidin Sampler Kit Content: HiLyte™ Fluor 488, 555 and 647 conjugated streptavidin	-	AS-72003-20

### APPLICATIONS

Excellent fluorescent tags for versatile labeling owing to bright signals, large Stokes shift and low quenching properties. Applicable in flow cytometry and immunoassays.



### ORDERING INFORMATION

PRODUCT	Abs/Em (nm)	CAT #
B - PE (B - Phycocerythrin)	545/575	AS-82001
C - PC (C - Phycocyanin)	616/647	AS-82003
CL - APC (Cross Linked - Allophycocyanin)	651/662	AS-82002
R - PE (R - Phycocerythrin)	565/575	AS-82004
SMCC Activated CL-APC (Cross Linked- Allophycocyanin)	651/662	AS-72108
SMCC Activated B-PE (B-Phycocerythrin)	545/575	AS-72109
SMCC Activated R-PE (R-Phycocerythrin)	565/575	AS-72110

### APPLICATIONS

Fluorescent Protein A can be used for Western Blotting, immunohistochemistry and immunofluorescence.

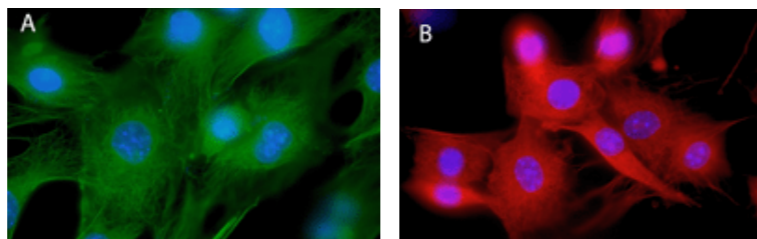


Fig.4\_3T3 cells stained with Rabbit anti-Tubulin IgG followed by Protein A-HiLyte™ Fluor 488 (A) and Protein A-HiLyte™ Fluor 647 (B).

## PHYSIOLOGICAL AND NEUROLOGICAL INDICATORS

The use of molecular fluorescence for sensing physiological and neurological signals offers several advantages. Among these are high sensitivity (down to the single molecule), on-off switchability, and submillisecond temporal resolution. We offer a quality selection of physiological and neurological indicators (such as Fura-2, Indo-1, and Rhod-2). Our UltraPure

Grade AM esters of fluorescent indicators are typically at least 95% pure by HPLC analysis, although purity often exceeds 98%. Furthermore, we offer custom package service for the AM esters of many of our Ca<sup>2+</sup> indicators within minimal charge for your convenience and for reduced risk of deterioration during storage. ■

## Fluorescent indicators

### APPLICATIONS

Intracellular pH indicator	Reactive pH indicator for slightly acidic pH range	5(6) - CFDA, SE	492/517	AS-89000	
	Cell-permeable fluorescent pH indicator; Better conjugant than FITC, resists hydrolysis, superior stability.	5(6) - FAM	494/519	AS-81002	
	pH dependent fluorescence; maximum intensity in basic pH.	Fluorescein *Fluorescence Reference Standard*	490/514	AS-80001	
Ca <sup>2+</sup> indicators	Visible light excitable Ca <sup>2+</sup> indicators	Calcein blue, AM (Cell permeant viability indicator)	322/437	AS-89205	
		Calcein, AM	494/517	AS-89201	
		Calcein, AM *UltraPure Grade*	494/517	AS-89202	
		Calcein, AM *UltraPure Grade*, 5 mM solution in anhydrous DMSO	494/517	AS-89203	
		Calcein; AM *UltraPure Grade* *Small Package*	494/517	AS-89204	
		Rhod - 2, AM *UltraPure Grade*	549/575	AS-84035	
		UV-Excitable	Fura - 2, AM	363/512	AS-84015
		Fura - 2; AM *UltraPure Grade* *Small Package*	363/512	AS-84017	
	Non-luminescent	Indo - 1, AM	346/475	AS-84006	
		EGTA, AM	n.d.	AS-84100	
EGTA, tetrasodium salt, 10 mM aqueous solution *UltraPure Grade*		n.d.	AS-84097		
Solubilising agent for AM esters of ion indicators	Pluronic® F - 127 *Cell Culture Tested *	n.d.	AS-84040		
	Pluronic® F - 127, 10% solution in water	n.d.	AS-84042		
	Pluronic® F - 127, 20% solution in DMSO	n.d.	AS-84041		
Cl <sup>-</sup> indicators	Greater sensitivity to chloride ion detection with higher fluorescence quantum yield	MQAE	350/460	AS-84925	
Membrane Potential Detectors [Fast Response]	Highly water soluble microinjectible	Di - 2 - ANEPEQ (JPW 1114)	517/721	AS-84713	
	Displays optical response good for transient potential changes in excitable cells.	Di - 4 - ANEPPS	496/705	AS-84723	
	Applicable in neuronal imaging	RH414	532/716	AS-84728	
Membrane Potential Detectors [Slow Response]	Temperature sensitive 488 nm-excitable membrane potential probe.	DiBAC4(3)	493/516	AS-84700	
	Lipophilic membrane dye	DiI	549/565	AS-84711	
	Less temperature-sensitive than DiBAC4(3)	DiSBAC2(3)	535/560	AS-84702	
	Cationic lipid bilayer translocating dye	DiSC3(5)	651/675	AS-84923	
	Mitochondrial marker dye	JC - 1	514/529	AS-88060	
	Environment sensitive dye for studying membrane and protein structures.	Laurdan	364/497	AS-88201	
	Membrane polarization dependent	Oxonol VI	599/634	AS-84704	
	Lipophilic membrane dye	Prodan	363/497	AS-88212	
	Mitochondrial membrane potential sensors effective than Rhodamine.	TMRE	549/574	AS-88061	
		TMRM	549/573	AS-88065	

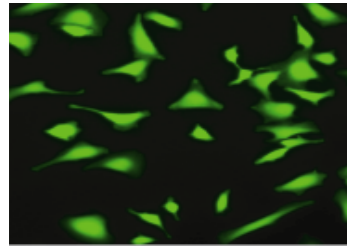


Fig.5\_ HeLA cells stained with AnaSpec's Calcein AM dye.

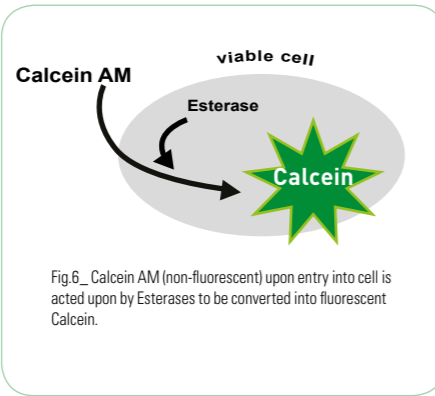


Fig.6\_ Calcein AM (non-fluorescent) upon entry into cell is acted upon by Esterases to be converted into fluorescent Calcein.

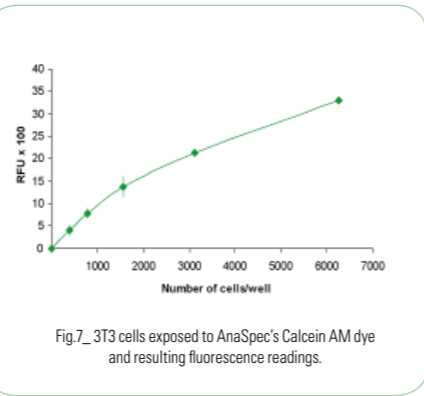


Fig.7\_ 3T3 cells exposed to AnaSpec's Calcein AM dye and resulting fluorescence readings.

## Neurological indicators

### APPLICATIONS

Neurological indicators	Binds to a wide range of amyloid inclusions <i>in situ</i>
	For early diagnosis and classification of amyloid deposition and differentiation from other glomerular fibrillar deposits
	Functional imaging of neurons: used for monitoring membrane potential, synaptic activity and ion channel activity of neurons
	Amyloid stain which binds rapidly and specifically to amyloid sheet fibrils but not to monomer or oligomeric intermediates

ORDERING INFORMATION		
PRODUCT	Abs/Em (nm)	CAT #
BSB	340/520	AS-88300
Congo Red *UltraPure Grade*	497/NA	AS-83016
RH414	532/716	AS-84728
Thioflavin T *UltraPure Grade*	412/482	AS-88306

## Enzyme substrates

### APPLICATIONS

Enzyme substrates	Protease-catalysed hydrolysis slowly yields brightly green fluorescent dye-labelled peptides. More slowly digested by MMP-1 than water-soluble collagen, but it is more specific for the enzyme
	Used for quick fluorometric measurement of collagenase activity; useful for detecting MMP-1 activity
	Useful for screening Gelatinase A (MMP-2) and Gelatinase A inhibitors, as well as for other gelatinases and collagenases that specifically degrade (Type IV) Collagen. Additionally, lightly fluorescein-labeled collagen may be useful for continuous assays monitored by fluorescence polarisation
	Fluorometric measurement of elastase activity. This insoluble elastin derivative is more specific for elastase than AS-85113
	Soluble bovine neck ligament elastin
	Efficiently digested by gelatinases and collagenases
	Chromogenic N-acetylgalactosaminidase substrate
	Cell-permeable substrate of oxidases (including peroxidase)
	Generic substrate of oxidases (including peroxidase) in mitochondria
	Sensitive and stable fluorogenic substrate for HRP but also an ultrasensitive probe for H <sub>2</sub> O <sub>2</sub> . In the presence of HRP and H <sub>2</sub> O <sub>2</sub> , ADHP generates highly fluorescent resorufin
	Luminescent substrate for firefly luciferase
	One of the most sensitive fluorogenic substrates available for detecting β-galactosidase
	Unlike FDG that requires a two-step hydrolysis to generate maximum fluorescence, resorufin β-D-galactopyranoside requires only a single-step hydrolysis reaction. This substrate is especially useful for sensitive enzyme measurements in ELISAs.
	Resorufin ethyl ether is a fluorogenic cytochrome P-450 substrate that generates red fluorescent product upon enzyme cleavage
	Resorufin methyl ether is a fluorogenic cytochrome P-450 substrate that generates red fluorescent product upon enzyme cleavage
	Resorufin pentyl ether is a fluorogenic cytochrome P-450 substrate that generates red fluorescent product upon enzyme cleavage

ORDERING INFORMATION		
PRODUCT	Abs/Em (nm)	CAT #
Collagen (Type I), FITC conjugated *Water Insoluble*	492/515	AS-85102
Collagen (Type I), FITC conjugated *Water Soluble*	492/515	AS-85111
Collagen (Type IV), FAM conjugated	492/515	AS-85112
Elastin, FITC-Conjugated *Water Insoluble*	492/515	AS-85103
Elastin, FITC Conjugated	492/515	AS-85113
Gelatin, FITC Conjugated	492/515	AS-85145
4-Nitrophenyl-N-acetyl-b-D-galactosaminide	399/NA	AS-85618
HZ-DCFDA	495/529	AS-85706
Dihydrorhodamine 123	507/529	AS-85711
ADHP	573/590	AS-85500
D-Luciferin, free acid *UltraPure Grade*	328/532	AS-82250
D-Luciferin, potassium salt *UltraPure Grade*	328/532	AS-82252
FDG [Fluorescein di-b-D-galactopyranoside]	492/520	AS-85600
Resorufin b-D-Galactopyranoside	573/585	AS-85617
Ethoxyresorufin	571/585	AS-85715
Methoxyresorufin	571/585	AS-85707
Pentoxyresorufin	571/585	AS-85728

## DNA BINDING DYES

DNA/RNA concentration is often measured by UV absorbance at 260 nm. This method, however, is not as accurate and sensitive as DNA quantitation by using fluorescent dyes.

We offer a variety of nucleic acid stains for detecting nucleic acids. These stains can be used for DNA quantitation in solutions or in cells. We also offer reagents for labelling nucleotides and nucleic acids. ■

## Fluorescent Nucleic Acid Dyes

### APPLICATIONS

Cell Impermeant Nucleic Acid Stains	GC region specific; Applicable for multi-color fluorescence microscopy, confocal laser-scanning microscopy and flow cytometry.	7 - AAD	546/647	AS-83201
	A fluorescent photoaffinity label that couples covalently to nucleic acids upon irradiation.	Ethidium monoazide bromide	462/625	AS-83214
	Nucelor or chromosomal counterstain.	Propidium iodide		AS-83212
Cell Permeant Nucleic Acid Stains		Propidium iodide, 1.0 mg/mL solution in water	535/617	AS-83215
	Binds to DNA/RNA (red fluorescence) upon oxidation	Dihydroethidium 5 mM solution in DMSO	518/605	AS-85704 AS-85718
	Biomarker for cell cycle and proliferation.	BrdU	n.d.	AS-83224
	AT-selective minor groove binder exhibiting enhanced fluorescence in the presence of DNA	DAPI	358/461	AS-83210 AS-83211
	DNA minor groove binding dye	Hoechst 33258, 20 mM solution in water Hoechst 33342, 20 mM solution in water	350/461	AS-83219 AS-83218
Others	Biotinylating agent; reacts with exposed aldehyde groups in damaged DNA	ARP	n.d.	AS-60645
	Building blocks to prepare amino-containing nucleotides	Aminoallyl dUTP, 4 mM in TE buffer *UltraPure Grade*	n.d.	AS-83203

ORDERING INFORMATION		
PRODUCT	Abs/Em	CAT. #
7 - AAD	546/647	AS-83201
Ethidium monoazide bromide	462/625	AS-83214
Propidium iodide		AS-83212
Propidium iodide, 1.0 mg/mL solution in water	535/617	AS-83215
Dihydroethidium 5 mM solution in DMSO	518/605	AS-85704 AS-85718
BrdU	n.d.	AS-83224
DAPI	358/461	AS-83210 AS-83211
Hoechst 33258, 20 mM solution in water	350/461	AS-83219
Hoechst 33342, 20 mM solution in water	350/461	AS-83218
ARP	n.d.	AS-60645
Aminoallyl dUTP, 4 mM in TE buffer *UltraPure Grade*	n.d.	AS-83203

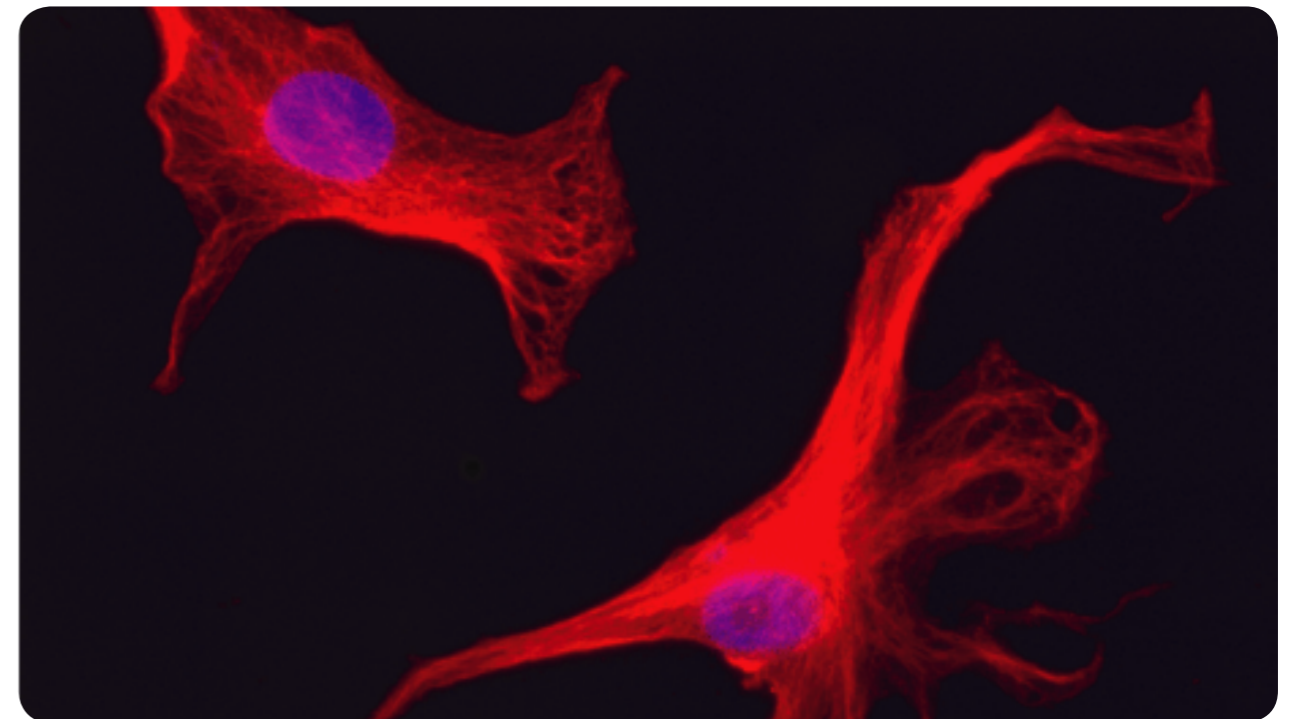
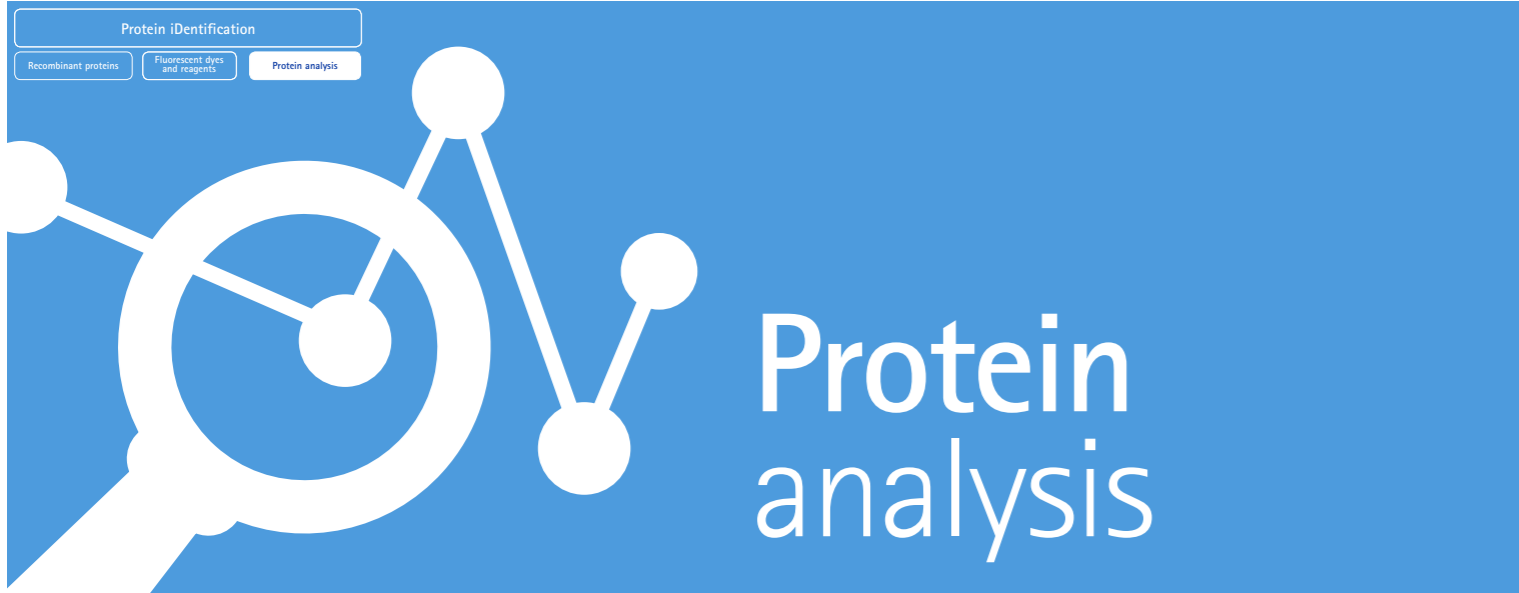


Fig.8\_Alpha-tubulin in bovine pulmonary artery endothelial cells were detected with mouse anti alpha-tubulin primary antibody, visualized with Allophycocyanin (APC)-conjugated goat anti mouse IgG. Nuclei were stained with DAPI (Cat# AS-83210).





# Protein analysis

## ELECTROPHORESIS PRODUCTS

### iD Gels

iD PAGE Gels are a series of high-performance polyacrylamide gels suitable for SDS-PAGE and Native-PAGE. This second-generation PAGE gels is based on Bis-Tris buffer, offering a greater resolution and higher stability than the first-generation Tris-Glycine gels. iD PAGE Gels are available in 10, 12 and 15 well formats, in gradient (4-20%, 4-12%, and 8-16%) or fixed (8%, 10%, and 12%) concentrations. Precoated gels can be run in MOPS and MES buffers but not in Tris-Glycine buffer.

### BENEFITS

- High resolution
- Large loading volume (up to 80 µL)
- Long shelf life (up to 12 months)
- No special loading tips required
- Compatible with most mini-gel tanks



### ORDERING INFORMATION

DESCRIPTION	SIZE	WELL VOL.	RUNNING BUFFER	TRANSFER BUFFER	SEPARATION RANGE	CAT #
<b>iD PAGE Gels</b>						
iD PAGE Gel, 4-20%, 10 wells	1 box of 10	80 µL	MOPS, MES	Tris-Bicine	250-10 kDa	ID-PA4201-010
iD PAGE Gel, 4-20%, 12 wells		60 µL				ID-PA4201-012
iD PAGE Gel, 4-20%, 15 wells		40 µL				ID-PA4201-015
iD PAGE Gel, 4-12% 10 wells		80 µL			250-20 kDa	ID-PA4121-010
iD PAGE Gel, 4-12% 12 wells		60 µL				ID-PA4121-012
iD PAGE Gel, 4-12% 15 wells		40 µL				ID-PA4121-015
iD PAGE Gel, 8-16%, 10 wells		80 µL			160-10 kDa	ID-PA8161-010
iD PAGE Gel, 8-16%, 12 wells		60 µL				ID-PA8161-012
iD PAGE Gel, 8-16%, 15 wells		40 µL				ID-PA8161-015
iD PAGE Gel, 12%, 10 wells		80 µL			120-6.5 kDa	ID-PA0121-010
iD PAGE Gel, 12%, 12 wells		60 µL				ID-PA0121-012
iD PAGE Gel, 12%, 15 wells		40 µL				ID-PA0121-015
iD PAGE Gel, 10%, 10 wells		80 µL			160-20 kDa	ID-PA0101-010
iD PAGE Gel, 10%, 12 wells		60 µL				ID-PA0101-012
iD PAGE Gel, 10%, 15 wells		40 µL				ID-PA0101-015
iD PAGE Gel, 8%, 10 wells	80 µL	180-20 kDa	ID-PA0081-010			
iD PAGE Gel, 8%, 12 wells	60 µL		ID-PA0081-012			
iD PAGE Gel, 8%, 15 wells	40 µL		ID-PA0081-015			
<b>iD Buffers</b>						
iD MOPS Running Buffer Powder	5 packs (for 5x1L running buffer)	-	-	-	-	ID-WCRUB1-005
iD Sample Buffer 5x	5 mL	-	-	-	-	ID-WCSAB1-005

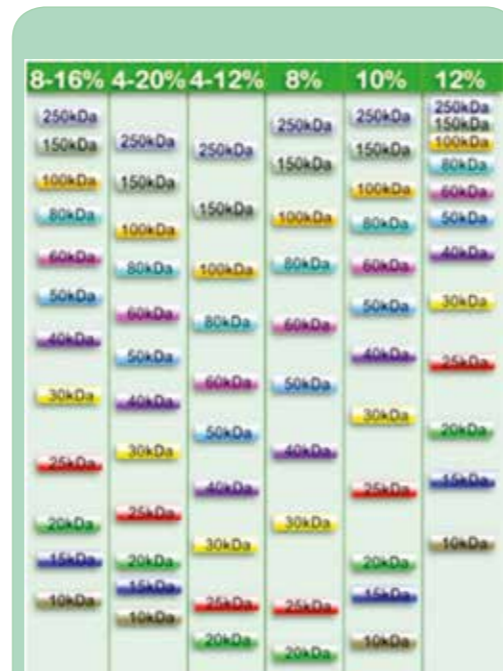


Fig.9\_Schematic migration profile built from an electrophoresis at 150 Volts for 45 min using iD PAGE Gels.

## iD Molecular Weight Standards

iD Protein Markers are designed to determine the molecular mass of proteins on SDS-PAGE and the transfer efficiency in Western Blot\*.

### iD BLUELADDER REVEALERS



iD BlueLadder Revealers are mouse monoclonal antibodies targeting the blue dye of prestained proteins in MW ladders.

Unconjugated and HRP-conjugated iD BlueLadder Revealers can be used to visualise the marker blue bands throughout the whole process of Western Blotting up to membranes or X-Ray films and can act as a positive control of the blotting efficiency.

Moreover, it makes the positioning of the marker on the blot significantly easier and highly accurate than when done manually.

### iD WIDE RANGE UNSTAINED PROTEIN WEIGHT MARKER

Seven purified recombinant proteins ranging from 30 to 200 kDa (30 kDa, 40 kDa, 60 kDa, 80 kDa, 100 kDa, 150 kDa, 200 kDa). The 30 kDa band is prestained with a blue dye. The 100 kDa band is double intensified to serve as a reference.

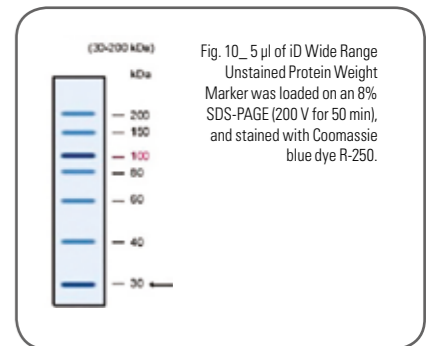


Fig. 10\_ 5 µL of iD Wide Range Unstained Protein Weight Marker was loaded on an 8% SDS-PAGE (200 V for 50 min), and stained with Coomassie blue dye R-250.

### iD MULTI COLOR PRE-STAINED PROTEIN WEIGHT MARKER

Eight pre-stained proteins in the range of 14 to 120 kDa. The 50 kDa and 120 kDa proteins are covalently coupled to an orange dye to ensure proper identification of each protein. The 14 kDa protein is covalently coupled to a bright yellow dye for easy orientation. The 25 kDa, 30 kDa, 40 kDa, 70 kDa and 100 kDa proteins are

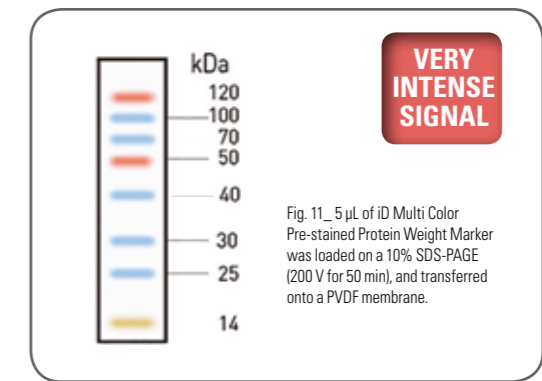


Fig. 11\_ 5 µL of iD Multi Color Pre-stained Protein Weight Marker was loaded on a 10% SDS-PAGE (200 V for 50 min), and transferred onto a PVDF membrane.

### BENEFITS

- Easy identification of the Marker bands
- Strong signal intensity



### ORDERING INFORMATION

DESCRIPTION	SIZE	CAT #
iD Wide Range Unstained Protein Weight Marker	250 µL	ID-MWBUR1-250
iD Multi Color Pre-stained Protein Weight Marker	250 µL	ID-MWMC1-250
iD BlueLadder Revealer	100 µg/50µL	ID-MWLRV1-050
iD BlueLadder Revealer-HRP	100 µg/50µL	ID-MWLRV1-H50

Note:  
\*The iD wide range unstained and iD multi-color pre-stained standards contain SDS and dithiothreitol.

### GOOD TO KNOW

A load of 5 µL of iD Multi Color Pre-stained Protein Weight Marker gives a much higher signal than most common prestained weight markers.





## WESTERN BLOTTING

With the iD Western Blotting solution, perform a protein transfer onto a membrane and a low-background western blotting detection in less than 2 hours.

The system is compatible with PVDF and nitrocellulose membranes. ■

## iD Blot System

The iD Blot system is an equipment based on the semi-dry protein transfer system. It allows the transfer of proteins from mini polyacrylamide gels to membranes in only 9 to 12 min with high efficiency.

The iD Blot system is compatible with multiple types of mini polyacrylamide gels (including the most commonly used Tris- Glycine, Bis-Tris, Tris-Tricine and Tris-Acetate gels).

### BENEFITS

- Protein transfer completed in 9-12 min
- No additional buffers required
- Unique formulation without methanol
- High transfer efficiency for sensitive detection

### TRANSFER METHOD COMPARISON

	iD Blot	Semi-Dry Transfer	Wet Transfer
Buffer preparation	0 min	20-30 min	20-30 min
Soaking gel in transfer buffer	0 min	15-25 min	0 min
Assembling layers	2 min	10 min	10 min
Transfer	7-10 min	40-90 min	60-180 min
Cleanup	0 min	10 min	10 min
<b>Total elapsed time</b>	<b>9-12 min only!</b>	95 min – 165 min	100 min – 230 min

### ID BLOT PADS

The following iD Blot Pads are available from Eurogentec and come with the following components:

Product	BASIC ID-BLPAB1-020	Nitrocellulose ID-BLPAN1-020
iD Blot Pads	20	20
iD Nitrocellulose membranes (20 sheets)	-	1
iD Blot Equilibration Buffer (125 ml)	2	2
Gel Window (66 mm×56 mm)	1	1
Gel Window (76 mm×64 mm)	1	1
Gel Window (88 mm×78 mm)	1	1
Absorbent Filter Paper	1	1
Sponge Cushions	2	2

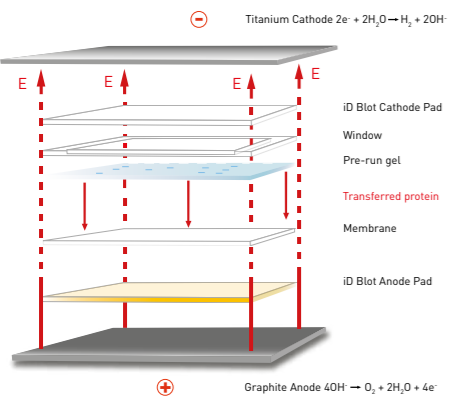


Fig.12\_ The voltage applied between the graphite anode and the titanium cathode of the iD Blot device generates a quick movement of the negatively charged proteins from the gel onto the membrane. The unique formulation of the iD Blot equilibration buffer used to presoak the membrane prevents the flow-through of low molecular weight proteins out of the membrane.

### GOOD TO KNOW

The iD Blot Device is used in combination with the iD Pads (Anode and Cathode Pads, presoaked respectively with an anode or cathode proprietary buffer) and **does not require any additional buffer.**



### ORDERING INFORMATION

DESCRIPTION	SIZE	CAT. #
iD Blot Device	1 unit	ID-BLDEV1-001
iD Blot Pads (Basic)	1 box of 20	ID-BLPAB1-020
iD Blot Pads (Nitrocellulose)	1 box of 20	ID-BLPAN1-020
iD Blot Graphite Electrode	1 unit	ID-BLETD1-001



## iD Western 1H Detection Kits

The iD Western 1H Detection kits have been optimised to achieve a Western blotting in 1H. A proprietary blocking reagent (ID-WCBL01-001) significantly increases the signal-to-noise ratio.

### BENEFITS

- Fewer and shorter steps than other Western Blotting procedures.
- Reagent formulation optimised to provide low background.
- Reproducible results.
- No additional secondary antibody needed.

### OVERVIEW OF WESTERN PROCEDURES

#### iD Western 1H Blot Kits

**1.25 hours!**

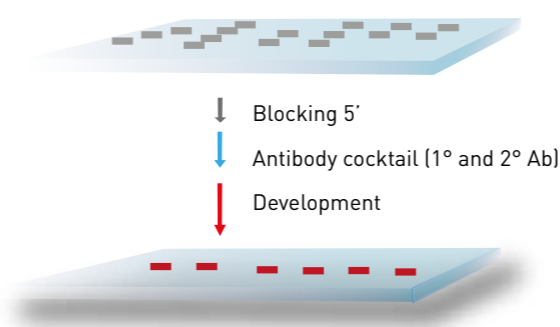
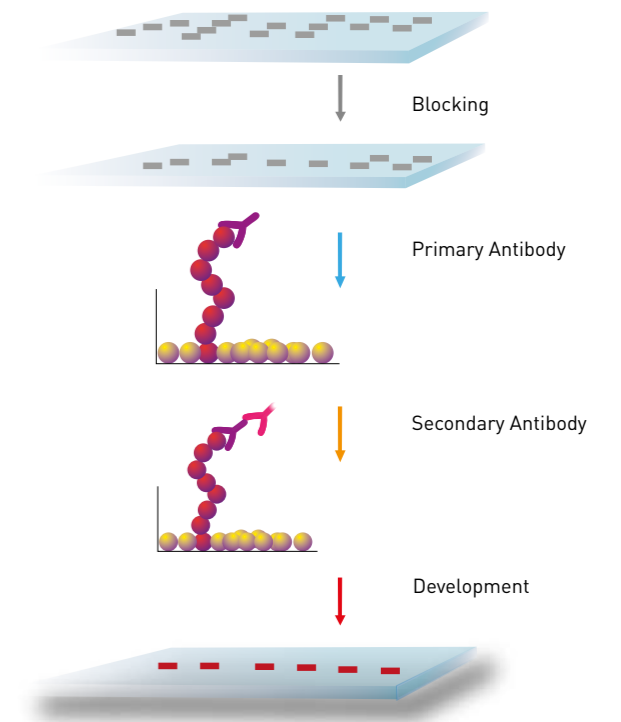


Fig.13\_ The iD Western 1H protocol replaces the classical 3-step Western Blotting process, which takes nearly 5 hours.

After the protein transfer from the gel to the membrane:  
 > Incubate the membrane in the blocking solution for 5 min.  
 > Wash  
 > Incubate the membrane for 40 min in a mixture containing the primary and secondary antibodies  
 > Proceed with the revelation step (in colorimetry or chemiluminescence)

#### Classical Western Blot Detection

**4.5 hours**



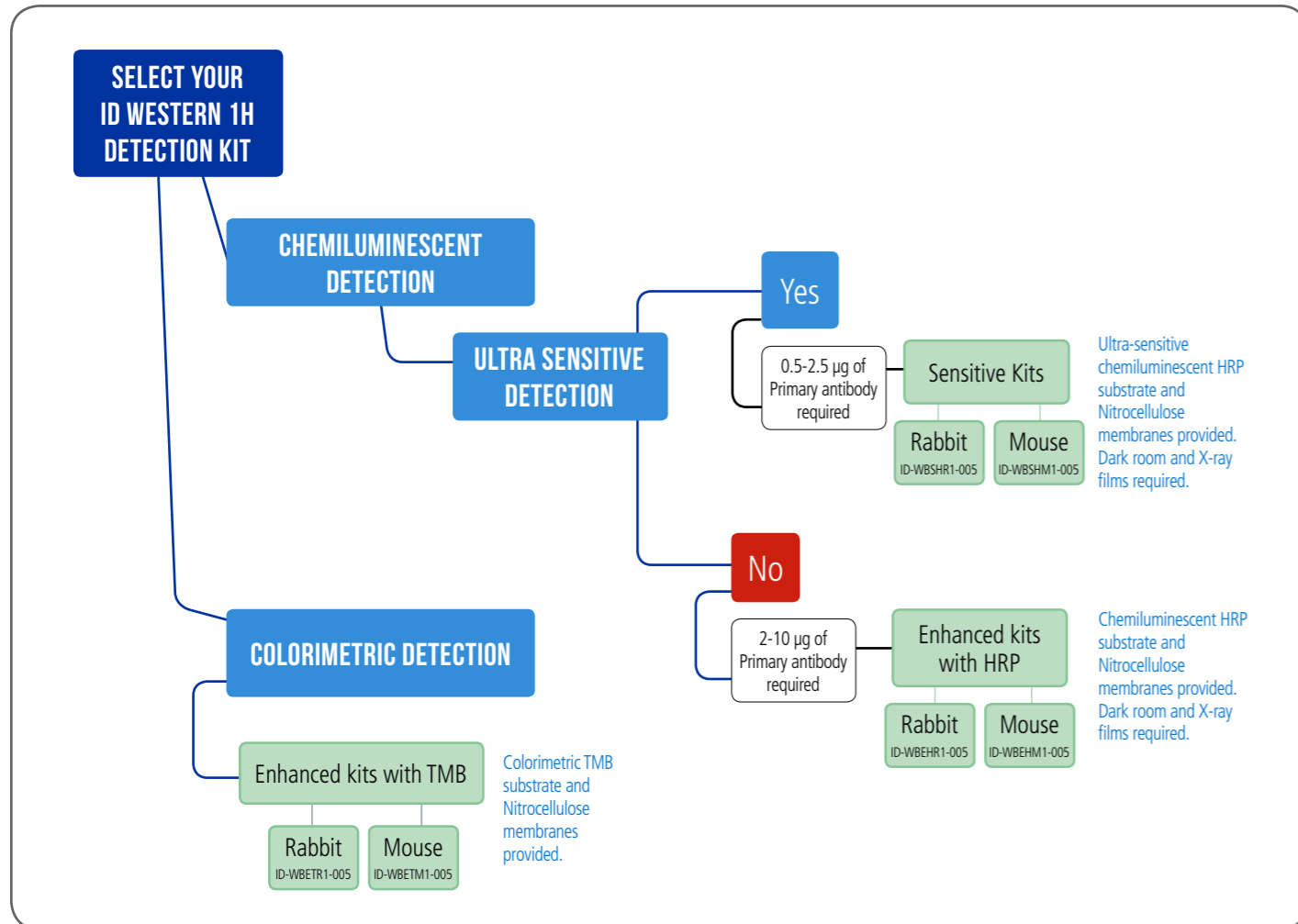
**A 5 MIN STEP ONLY**

#### iD BLOCKING KIT

The iD Blocking Kit is composed of 2 optimised solutions. After mixing, the iD blocking solution ensures a quick blocking of any membrane or solid surface of multi-well plates. With the iD Blocking kit, **blocking step takes 5 minutes only** and significantly increases the Western Blotting detection sensitivity compared to the classical milk or BSA blocking.

# Western 1H kit selection

The kits contain all the necessary reagents, buffers and materials to perform a Western blotting. All you need to provide is the primary antibody targeting your protein of interest. No additional secondary antibody is required. A proprietary secondary antibody producing a very high signal is included in the kit.



## KIT CONTENT

Components	Enhanced Kits		Sensitive Kits
	With TMB	With HRP	
Pretreat Solution A	50 mL	50 mL	50 mL
Pretreat Solution B	50 mL	50 mL	50 mL
WB-1 Solution	0.5 mL	0.5 mL	0.5 mL
WB-2 Solution	50 mL	50 mL	50 mL
5x Wash Solution	125 mL	125 mL	125 mL
iD Nitrocellulose Membrane (ID-WCNIM1-005)	5 sheets	5 sheets	5 sheets
iD TMB Colorimetric Substrate	15 mL	-	-
iD HRP Chemiluminescent Substrate	-	2x 7.5 mL	-
iD HRP Super Chemiluminescent Substrate	-	-	5 +10 mL

The TMD and HRP, substrates and the blocking reagent are available separately.



## ORDERING INFORMATION

DESCRIPTION	SIZE	CAT #
<b>iD Western 1H Detection kit</b>		
<b>Rabbit</b>		
iD Western 1H - Enhanced Kit with TMB	1Kit (5 Assays)	ID-WBETR1-005
iD Western 1H - Enhanced Kit with HRP	1Kit (5 Assays)	ID-WBEHR1-005
iD Western 1H - Sensitive Kit with HRP	1Kit (5 Assays)	ID-WBSHR1-005
<b>Mouse</b>		
iD Western 1H - Enhanced Kit with TMB	1Kit (5 Assays)	ID-WBETM1-005
iD Western 1H - Enhanced Kit with HRP	1Kit (5 Assays)	ID-WBEHM1-005
iD Western 1H - Sensitive Kit with HRP	1Kit (5 Assays)	ID-WBSHM1-005
<b>iD Substrate Kits</b>		
iD HRP Chemiluminescent Substrate Kit	(2x30ml) for 20 membranes	ID-SUHRP1-060
iD TMB Colorimetric Substrate Kit	60ml for 20 membranes	ID-SUTMB1-060
<b>Blocking Kit</b>		
iD Blocking Kit	100ml A + 100ml B (for 10 membranes)	ID-WCBL01-001

## iD SENSOLYTE® ASSAY KITS

# Custom Fluorescent Assays

### DESIGN AND DEVELOPMENT

By leveraging our expertise in protein labelling, FRET & Fluorogenic peptide substrate synthesis, and assay development, we can minimise your development time, while delivering the highest quality assay(s), or labelled substrate(s).

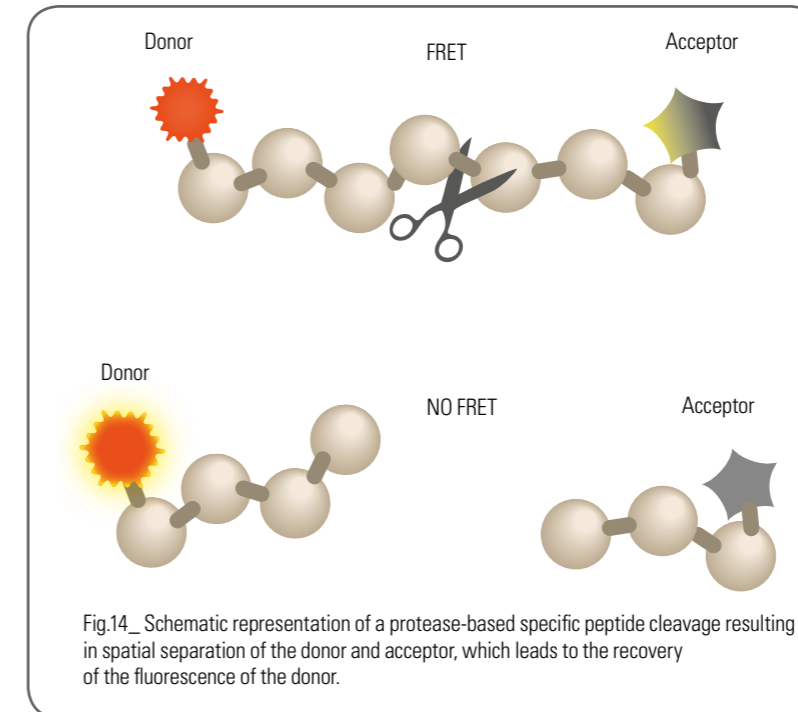


Fig.14\_ Schematic representation of a protease-based specific peptide cleavage resulting in spatial separation of the donor and acceptor, which leads to the recovery of the fluorescence of the donor.

### APPLICATIONS

- HTS detection of protease activity, protease activators and inhibitors
- Protease based drug target screening and discovery
- Protein-peptide interaction

### BENEFITS

- Homogeneous assay format ideal for HTS
- Full spectrum of dyes and quenchers covering all detection channels

### SERVICE

- Design and preparation of FRET, TR-FRET and fluorogenic substrates & assays
- Preparation of labelled quenched peptide or protein substrates
- Validation of assay with inhibitor(s) or biologicals
- Detailed step by step assay protocol.

“ WE KNOW THAT CONFIDENTIALITY IS IMPORTANT TO YOU, AND WILL TREAT YOUR PROJECT AND DATA WITH THE UTMOST CARE AND RESPECT. ”

### GOOD TO KNOW

**FRET** or Fluorescence or Förster resonance energy transfer is a distance-dependent transfer of excited state energy from an initially excited donor to an acceptor, with the donor molecule typically emitting at shorter wavelengths that overlap with the absorption of an acceptor. FRET occurs when a donor (fluorophore) and an acceptor (another fluorophore or quencher) are within a specified distance, usually within 10-100 Å. Within this distance, when a donor transfers its resonance energy to a quencher, a decrease in the donor fluorescence is seen.

**In TR-FRET** (Time-Resolved Fluorescence Resonance Energy Transfer) the donor molecule is a Lanthanide metal, such as Europium (Eu), with a long-lived fluorescence. The long-lived fluorescence is characterised by a large Stoke's shift providing a high signal-to-noise ratio due to minimal crosstalk between excitation and emission wavelengths.

**Fluorogenic Assays** make use of substrates that are labelled with a fluorophore but no quencher. The C-terminal end-specific dyes that are used in this type of assay are quenched by the peptide itself. Upon peptide cleavage by a specific protease, the fluorescence increases.

### ALSO AVAILABLE

- Protein Labelling with Fluorescent dyes, and quenchers
- Protein-peptide conjugation (KLH, BSA, OVA)

# Catalogue Assays

Our portfolio of iD Sensolyte® Assay kits contains many sensitive FRET based assays designed for activity detection of specific proteases and other enzymes. ELISAs are also available to detect specific biological targets.

## BENEFITS

- Optimised for highly sensitive detection of enzyme activities
- Compatible with high throughput screening (HTS) for use in drug discovery
- One-step homogeneous assays
- Convenient mix-and-read formats (for select proteases)
- iD Sensolyte® specialised services available

## iD OPTIMISATION

We can customise and scale up any iD Sensolyte® assay kit to suit your specific application. Bulk FRET or Fluorogenic Substrate amounts are conveniently offered separately from our assay kits, if you prefer to develop your own HTS assays.

## SCREENING SERVICES

Have you found an iD Sensolyte® assay kit that works great, but have no time for testing? We can save you time and money by screening your small molecules or biologicals for you.

## iD SENSOLYTE® ASSAY KITS BY RESEARCH TOPIC



Alzheimer's



Cell adhesion



Multiple Sclerosis



Epigenetics



Parkinson



Oxidative stress



Bone



Cardiovascular



Cancer &amp; Apoptosis



Viral &amp; Bacterial



## Alzheimer's Disease

The important roles of  $\beta$ -Amyloid, Tau and related enzyme activities such as secretases, cathepsins and Neprilysin, in Alzheimer's disease (AD) continue to be of targeted interest among AD researchers worldwide. Our highly sensitive fluorimetric assay kits including industry's first- Green Pin1 assay kit and related kits (secretase etc.) add to our vast and unique collection of Amyloid peptides to advance AD research. ■



## Multiple Sclerosis

Eurogentec supports MS/EAE research. In addition to its suite of peptides, the company provides assay kits and antibodies that facilitate the advancement of this research. Proteolipid protein (PLP) and Myelin Oligodendrocyte Glycoprotein (MOG) are suspected antigens in the pathogenesis of MS. Our ELISA assays for quantifying autoimmune IgG's directed to MOG or PLP are the first in the industry. As are antibodies against MOG, PLP and MBP. ■



### OUR PRODUCT SELECTION\*

ASSAY KITS		Abs/Em	LOWEST DETECTION LIMIT	CAT #
Acetylcholinesterase	Sensolyte® 520 Acetylcholinesterase Activity Assay Kit Fluorimetric	490/520nm	8 pg/ml	AS-72242
Secretases & Aggrecanase	Sensolyte® 520 $\alpha$ -secretase Assay kit *Fluorimetric*	490/520 nm	0.31 ng/well	AS-72085
	Sensolyte® $\beta$ -secretase 2 Activity Assay *Fluorimetric*	490/520 nm	10ng/well	AS-72225
ADAM 10	Sensolyte® 520 $\beta$ - Secretase 1 Assay Kit *Fluorimetric*	490/520 nm	0.03mU/ml	AS-71144
	Sensolyte® 520 ADAM10 Activity Assay Kit *Fluorimetric*	490/520nm	0.25ng/ml	AS-72226
$\beta$ -Amyloid	Sensolyte® Anti-Human $\beta$ -Amyloid (1-40) Quantitative ELISA	Abs = 450 nm	2 pg/ml	AS-55551
	Sensolyte® Anti-Human $\beta$ -Amyloid (1-42) Quantitative ELISA	Abs = 450 nm	2 pg/ml	AS-55552
	Sensolyte® Thioflavin T $\beta$ - Amyloid (1-42) Aggregation Kit	440/484nm	n.d.	AS-72214
	Sensolyte® Thioflavin T $\beta$ - Amyloid (1-40) Aggregation Kit	440/484nm	n.d.	AS-72213
Neprilysin	Sensolyte® 520 Neprilysin Activity Assay Kit *Fluorimetric*	490/520	0.78 mg/mL	AS-72223
Pin 1	Sensolyte® Green PIN1 Activity Assay Kit *Fluorimetric*	490/520	n.d.	AS-72240

\*For a full list of products and product citations, please refer to the product pages online. For related recombinant Tau proteins, refer to page 6.



### OUR PRODUCT SELECTION\*

ASSAY KITS		Abs/Em	DYNAMIC RANGE	LOWEST DETECTION LIMIT	CAT #
Anti-PLP (Proteolipid protein) IgG	Sensolyte® Anti-PLP (139-151) IgG Quantitative ELISA Kit (mouse) *Colorimetric*	450 nm	8-500 ng/ ml	100 pg	AS-55524
	Sensolyte® Anti-PLP (178 - 191) IgG Quantitative ELISA Kit (Mouse) *Colorimetric*	450 nm	8-500 ng/ ml	100 pg	AS-55523
Anti-MOG (Myelin Oligodendrocyte Glycoprotein) IgG	Sensolyte® Anti-Rat MOG (1-125) Assay *Colorimetric*	450 nm	8-500 ng/ ml	1 ng/ml	AS-55157
	Sensolyte® Anti-Human MOG (1-125) Assay *Colorimetric*	450 nm	8-500 ng/ ml	1 ng/ml	AS-55153-H
	Sensolyte® Anti - MOG (35 - 55) IgG Quantitative ELISA Kit (mouse/rat) *Colorimetric*	450 nm	8-500 ng/ ml	100 pg	AS-54465

\*For a full list of products and product citations, please refer to the product pages online. For related recombinant MOG proteins, refer to page 6.





## Parkinson's Disease

Parkinson's disease (PD) is a progressive disorder affecting movements characterised by the involvement of certain enzyme activities and peptides/proteins. Parkinson's disease related molecules are attractive targets for new therapeutic development. ■



### OUR PRODUCT SELECTION\*

	ASSAY KITS	Abs/Em	LOWEST DETECTION LIMIT	CAT #
Synuclein	Sensolyte® Anti - $\alpha$ - Synuclein (Human) ELISA Kit *Colorimetric*	n.d.	5 pg/ml	AS-55550-H
Transglutaminase	Sensolyte® Transglutaminase Activity Assay Kit, *Colorimetric*	n.d.	n.d.	AS-72244
	Sensolyte® Transglutaminase Activity Assay Kit, *Fluorimetric*	545/590nm	120ng/ml	AS-72245

\*For a full list of products and product citations, please refer to the product pages online. For related recombinant synuclein & DJ-1 proteins, refer to page 6.



## Bone-related Disease / Pathways

The relevance of alkaline phosphatases in relation to bone diseases such as Paget's disease continues to attract impactful research in the field. AnaSpec offers a variety of assay kits including highly purified chromogenic and fluorogenic substrates for the detection of alkaline phosphatase activities in solutions, in cell extracts, and in live cells; as well as in multiple formats... ■



### OUR PRODUCT SELECTION\*

	ASSAY KITS	Abs/Em	LOWEST DETECTION LIMIT	CAT #
Cathepsin K	Sensolyte® Rh110 Cathepsin K Assay Kit *Fluorimetric*	490/520 nm	0.1 ng/well	AS-72152
	Sensolyte® 520 Cathepsin K Assay Kit *Fluorimetric*	490/520 nm	1 ng/well	AS-72171
Aggrecanase 1	Sensolyte® 520 Aggrecanase-1 Assay Kit *Fluorimetric*	490/520 nm	0.1 ng	AS-72114
Phosphatases	Sensolyte® pNPP Alkaline Phosphatase Assay Kit *Colorimetric*	Abs = 405 nm	0.02 ng/well	AS-72146
	Sensolyte® pNPP Protein Phosphatase Assay Kit *Colorimetric*	Abs = 405 nm	10 ng of PTP 1B	AS-71105

\*For a full list of products and product citations, please refer to the product pages online.



## Cancer and Apoptosis

Detecting cell proliferation/viability and programmed cell death constitutes critical aspects of cancer and apoptosis research. Caspases involved in apoptosis act by executing cellular disassembly via proteolytic cleavage of substrates.

We are proud to offer convenient assay kits not only for detecting cell viability and proliferation but also a series of one-step homogeneous caspase assay kits and substrates ideal for HTS. ■



## Cell Adhesion and ECM

Enzymes responsible for the breakdown of connective tissue are important in bone remodelling, tissue repair, cell signalling including migration (adhesion/ dispersion), differentiation, angiogenesis, apoptosis etc. Our vast array of MMP assay kits are designed to detect generic and specific MMP's activity including pro and active forms for your research needs. ■



### OUR PRODUCT SELECTION\*

	ASSAY KITS	Abs/Em	LOWEST DETECTION LIMIT	CAT #
Calpain	Sensolyte® 520 Calpain Activity Assay Kit *Fluorimetric*	490/520nm	n.d.	AS-72149
Matriptase	Sensolyte® Rh110 Matriptase Activity Assay Kit *Fluorimetric*	496/520nm	0.15ng/ml	AS-72241
Caspases	Sensolyte® Caspase AFC Profiling Kit *Fluorimetric*	380/500nm	n.a.	AS-71120
	Sensolyte® Homogeneous AMC Caspase-3/7 Assay Kit *Fluorimetric*	354/442	n.d.	AS-71118
Cathepsins	Sensolyte® 520 Cathepsin D Assay Kit *Fluorimetric*	490/520	n.d.	AS-72170
	Sensolyte® 520 Cathepsin E Assay Kit *Fluorimetric*	490/520	2 ng/mL	AS-72222
Cell Viability and Proliferation	DHL™ Cell Viability and Proliferation Assay Kit *Fluorimetric*	560/590	48 cells	AS-71300

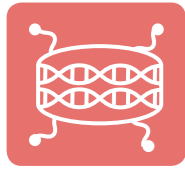
\*For a full list of products and product citations, please refer to the product pages online.



### OUR PRODUCT SELECTION\*

	ASSAY KITS	Abs/Em	LOWEST DETECTION LIMIT	CAT #
MMPs	Sensolyte® 520 Generic MMP *Fluorimetric*	490/520 nm	1 ng	AS-71158
	Sensolyte® Generic MMP *Colorimetric*	Abs = 412 nm (with thiol reactive Ellmon's reagent)	n.d.	AS-72095
	Sensolyte® 520 MMP Profiling Kit *Fluorimetric*	490/520 nm	n.a.	AS-71136
	Sensolyte® PLUS 520 MMP-1 *Fluorimetric*	490/520 nm	30 pg	AS-72012
	Sensolyte® MMP-2 ELISA Kit *Colorimetric*	Abs = 450 nm	n.d.	AS-72148
	Sensolyte® MMP-8 ELISA Kit *Colorimetric*	Abs = 450 nm	n.d.	AS-71154

\*For a full list of products and product citations, please refer to the product pages online. For related recombinant proteins and proenzyme MMPs, refer to page 6.

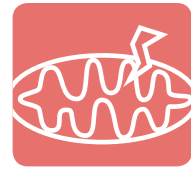


## Epigenetics

To study gene expression modulation for example, the deacetylation of lysine residues on histone proteins, in relevance to transcriptional regulation in various models of cell cycling, apoptosis and differentiation, we offer a series of epigenetics enzymes assay kits, also in HTS formats. ■

OUR PRODUCT SELECTION*				
	ASSAY KITS	Abs/Em	LOWEST DETECTION LIMIT	CAT #
Sirtuins	SensoLyte® 520 FRET SIRT1 Assay Kit *Fluorimetric*	490/520	n.d.	AS-72155
	SensoLyte® Green SIRT2 Assay Kit *Fluorimetric*	490/520	n.d.	AS-72188
HDAC	SensoLyte® 520 HDAC Activity Assay Kit *Fluorimetric*	490/520	0.78 µg/mL	AS-72084
HAT (p300)	SensoLyte® HAT (p300) Assay Kit *Fluorimetric*	289/513	n.d.	AS-72172

\*For a full list of products and product citations, please refer to the product pages online.  
For related recombinant Sirtuin proteins, refer to page 6.



## Oxidative Stress

Reactive Oxygen Species (ROS) have an important role in several biological events and are studied extensively via oxidative stress-related pathways and molecules. In this context, we have developed highly sensitive assays for optimised detection of molecules such as hydrogen peroxide and glutathione, which have roles in ROS production/modulation. ■

OUR PRODUCT SELECTION*				
	ASSAY KITS	Abs/Em	LOWEST DETECTION LIMIT	CAT #
Thiol compounds	SensoLyte® 520 Thiol Quantitation Assay *Fluorimetric*	490/520 nm	0.04 µM with a linear range up to 160 µM	AS-72138
	SensoLyte® ABD-F Thiol Quantitation Assay *Fluorimetric*	389/513 nm	0.25 µM	AS-72137
Reduced Glutathione (GSH)	SensoLyte® 520 Total GSH Assay *Fluorimetric*	490/520 nm	0.2 µM with a linear range up to 100 µM	AS-72154
	SensoLyte® Total GSH Assay *Colorimetric*	Abs = 415 nm	1.5 µM with a linear range up to 100 µM	AS-72153
Hydrogen Peroxide	SensoLyte® ADHP Hydrogen Peroxide Assay Kit *Fluorimetric*	530-560/590 nm	1 µM (0.1 nmol) with a linear range up to 20 µM (2 nmol)	AS-71112
	SensoLyte® ADHP Peroxidase Assay Kit *Fluorimetric*	530-560/590 nm	n.d.	AS-71111

\*For a full list of products and product citations, please refer to the product pages online.



## Cardiovascular

Vascular diseases comprise disorders of the heart and blood vessels including hypertension and atherosclerosis. Detecting activities of Renin, Thrombin, Plasmin etc., are vital to understand their roles in vascular disease states. Our optimised/novel assay kits designed to detect enzyme activities can serve to advance your vascular disease research in convenient formats. ■

OUR PRODUCT SELECTION*				
	ASSAY KITS	Abs/Em	LOWEST DETECTION LIMIT	CAT #
Thrombin	SensoLyte® 520 Thrombin Assay Kit *Fluorimetric*	490/520 nm	0.6 ng/well	AS-72129
Plasmin	SensoLyte® Rh110 Plasmin Assay Kit *Fluorimetric*	496/520 nm	0.02 ng/well	AS-72125
Cathepsins	SensoLyte® 520 Cathepsin S *Fluorimetric*	490/520 nm	0.1 ng/well	AS-72099
Renin	SensoLyte® 520 Rat Renin *Fluorimetric*	490/520 nm	0.09 ng/well	AS-72140
	SensoLyte® 520 Renin *Fluorimetric*	490/520 nm	0.12 ng/well	AS-72040
Factor Xa	SensoLyte® 520 Factor Xa *Fluorimetric*	490/520 nm	~8 ng/well	AS-72208
ADAMTS-13	SensoLyte® 520 ADAMTS-13 Activity Assay Kit *Fluorimetric*	490/520	n.d.	AS-72232
Angiotensin-converting enzyme 2	SensoLyte® 390 ACE2 Activity Assay Kit *Fluorimetric*	330/390	n.d.	AS-72086
Urokinase (uPA)	SensoLyte® AFC Urokinase (uPA) Activity Assay Kit *Fluorimetric*	380/500	n.d.	AS-72159
Tissue-type plasminogen activator (tPA)	SensoLyte® AMC tPA Activity Assay Kit *Fluorimetric*	354/442	n.d.	AS-72160

\*For a full list of products and product citations, please refer to the product pages online.  
For related recombinant Renin proteins, refer to page 6.



## Viral and Bacterial Proteases

To cater to microbial disease research keeping in mind the growing importance of High-Throughput Screening (HTS) for drug discovery, we proudly offer a series of fluorimetric Viral/Bacterial protease activity assay kits, which are optimised for HTS; as well as for regular non-HTS uses. ■

OUR PRODUCT SELECTION*				
	ASSAY KITS	Abs/Em	LOWEST DETECTION LIMIT	CAT #
HIV	SensoLyte® 520 HIV Assay Kit *Fluorimetric*	490 / 520 nm	n.d.	AS-71147
HCV	SensoLyte® 520 HCV Assay Kit *Fluorimetric*	490 / 520 nm	0.1 pmole	AS-71145
WNV	SensoLyte® 570 WNV Assay Kit *Fluorimetric*	540 / 575 nm	n.d.	AS-72080
Sortase	SensoLyte® 520 Sortase A Activity Assay Kit *Fluorimetric*	490/520nm	20 ng/ml	AS-72228
TEV	SensoLyte® 520 TEV Protease Assay Kit *Fluorimetric*	490/520	n.d.	AS-72227

\*For a full list of products and product citations, please refer to the product pages online.  
For related recombinant HCV, HIV, West Nile Viral & Bacterial Sortase proteases, refer to page 6.

# ANNEXES

## ID BUFFER COMPOSITION

### ID Buffer composition

#### 5x Sample Buffer:

	SDS-PAGE	Native PAGE	Final concentration (1x Buffer)
Tris base	300 mg	300 mg	50 mM
Glycerol	5.0 mL	5.0 mL	10%
Bromophenol blue	25 mg	25 mg	0.01 %
2-mercaptoethanol	1.0 mL	1.0 mL	2%
SDS	1.0 g		2%
Deionized water	to 10 mL	to 10 mL	
pH (use 8M NaOH or 8M HCl)	6.8	6.8	

Store at room temperature - Note: Our 5x sample buffer (ID-WCSAB1-005) contains SDS and  $\beta$ -mercaptoethanol

#### 1x protein sample solution:

Sample	x $\mu$ L
Sample Buffer 5x	2 $\mu$ L
Deionized water	to 10 $\mu$ L

Heat at 95°C for 10 min before loading on gel - Note: Our MOPS buffer (ID-WCRUB1-005) contains SDS

#### 10x MOPS Running Buffer: to separate medium to large proteins >20 kDa

	SDS-PAGE	Native PAGE	Final concentration (1x Buffer)
Tris base	60.6 g	60.6 g	50 mM
MOPS	104.6 g	104.6 g	50 mM
EDTA	3.0 g	3.0 g	1 mM
SDS	10.0 g		0.1 %
Deionized water	to 1L	to 1L	
pH (do not adjust)	7.7	7.7	

Store at 4°C up to 6 months

#### 10x MES Running Buffer: to separate small proteins (2-50 kDa)

	SDS-PAGE	Native PAGE	Final concentration (1x Buffer)
Tris base	60.6 g	60.6 g	50 mM
MES	97.6 g	97.6 g	50 mM
EDTA	3.0 g	3.0 g	1 mM
SDS	10.0 g		0.1 %
Deionized water	to 1L	to 1L	
pH (adjust with 8M NaOH or 8M HCl)	7.3	7.3	

Store at 4°C up to 6 months

#### 20x Transfer Buffer:

	20x Transfer Buffer*	To make 1L of 1x transfer buffer: mix 50 ml of 20x transfer buffer, 100 mL of methanol or ethanol and 850 mL of deionized water.
Tris base	60.6 g	
Bicine	81.6 g	
Deionized water	1L	

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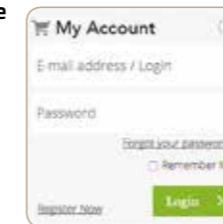
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- > Antibody fragments

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- > Custom and catalogue
- > Quantified peptides

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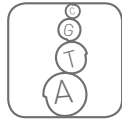
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