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PEPTIDES

Sortagging Peptides from Cambridge Research Biochemicals

Sortagging is a chemoenzymatic ligation used for site-specific labelling of proteins with small probes. The versatile and broad application of Sortase A (SrtA) mediated ligation can be used for protein modification, synthesis of protein-polymer conjugates and immobilisation of proteins on surfaces.



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Sortase A is a cysteine transpeptidase that can catalyse a ligation reaction between a five amino acid substrate motif (LPXTG) and oligoglycine nucleophiles. For proteins and synthetic peptides that contain these motifs, modifications can be introduced onto the protein N- or C-terminus in a site-specific manner.

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Sortases are cysteine transpeptidases responsible for covalently attaching secreted proteins to the peptidoglycan cell wall. The name is derived from the role the enzymes play in the protein sorting pathway, “sorting” cell surface proteins into the cell wall compartment. This sortase-mediated ligation (SML) is known as sortagging.

Sortase A (SrtA) recognises surface proteins with the sequence motif LPXTG in the C-terminus and subsequently cleaves it after the threonine. A covalent intermediate is formed between the threonine and the cysteine present in the active site of SrtA.

A transpeptidation reaction then catalyses the formation of an amide bond between the new C-terminal threonine and the N-terminal amino group of oligo-glycines in peptidoglycan or pseudopeptidoglycan to covalently anchor them to the bacterial cell wall. Substrate binding leads to a conformational change in the active site which varies depending on the sorting signal.

The transpeptidase activity of SrtA can be applied to catalyse in vivo and in vitro ligation of proteins or peptide substrates containing a C-terminal LPETG motif with fragments containing several N-terminal glycines.

Dai, X., Böker, A. and Glebe, U. Broadening the scope of sortagging (2019). *RSC Adv.* 9:4700-4721.

Popp, M., Antos, J. and Ploegh, H. Site-Specific Protein Labelling via Sortase-Mediated Transpeptidation (2009). *Curr Protoc Protein Sci.* Chapter 15:Unit 15.3

N-terminal Sortagging Peptides

Biotin-LPETGG N-terminal Sortagging

crb1000655
Biotin-LPETGG-amide
0.5mg £110 | 1mg £140

Biotin-LPETAG N-terminal Sortagging

crb1000656
Biotin-LPETAG-amide
0.5mg £110 | 1mg £140

[5-TAMRA]-LPETGG N-terminal Sortagging

crb1100657
[5-TAMRA]-LPETGG-amide
0.1mg £140 | 1mg £220

[5-TAMRA]-LPETAG N-terminal Sortagging

crb1100658
[5-TAMRA]-LPETAG-amide
0.1mg £140 | 1mg £220

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C-terminal Sortagging Peptides

C-Terminal Sortagging-AAA-[Lys(Biotin)]

crb1000650
AAA-[K(Biotin)]-amide
0.5mg £110 | 1mg £140

C-terminal Sortagging-[Cys(AF488)]

crb1110801
GGG-[C(AF488)]-amide
0.1mg £190 | 0.5mg £220

C-terminal Sortagging-[Cys(Sulfocyanine3)]

crb1101488
GGG-[C(Sulfocyanine3)]-amide
0.5mg £220 | 1mg £330

C-terminal Sortagging-[Cys(Sulfocyanine5)]

crb1101487
GGG-[C(Sulfocyanine5)]-amide
0.5mg £220 | 1mg £330

C-terminal Sortagging-[Cys(Sulfocyanine7)]

crb1101496
GGG-[C(Sulfocyanine7)]-amide
0.5mg £220 | 1mg £330

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