



Product name DIGESTIF Labelled



Catalog number DI711311

Product description

DIGESTIF is a new generic standard designed to release indicators peptides which reflect the efficiency of digestion step on any bottom-up experiment. The product reflects the digestion properties of a complex protein mixture and it's suitable for biomarker discovery studies or controlling different proteases sources

Similar products: Unlabelled DIGESTIF (DI711310)

Protein sequence

MGSSHHHHHSSGLVPRGSRRAVHMGSGAKRGTIYDRNGVPIAEDATSGGARLFLQFGAQQGSPFLKTAHWKVEATFGVDESSNAKCARYIL
AGVENSKTAARGTFIIDPGGVIRTAPNRSYPNGQFASSFIGGARGAGSSEPVTGLDAKTAHWKADVTPADFEWSKCHWKTPVISGGPYEYR
ARTPVITGAPYEYRTAGMESSLNSILAGGGGARLGGNEQVTRTACKDGLDAASYAPVRRPARGTFIIDPAAVIRTAELDGDVYTTISSPLQSF
ETQMDAFQEKVKGYMTATLVSATGELATTQRPTFDADTKEGITEDFVWRDILYQSNYEPGSTMKVMMLAAAIDNNTFPGGEVFNSELK
IADATIRDWDVNEGLTGGRMMTFSQGFHSSNVGMTLLEQKMGDWTLDYLNRFKFGVPTFRGLTDEYAGQLPADNIVNIAQSSFGQGIS
VTQTQMIRAFTAIANDGVMLEPKFISAIYDPNDQTARKSQKEIVGNPVSKDAAASLRTNMVLVGTDPVYGTMYNHSTGKPTVTVPGQNV
KSGTAQIADEKNGGYLVGLTDYIFSAVSMSPAENPDFILYVTVQQPEHYSGIQLGEFANPILERASAMKDSLNLQTTAKALEQVSQQSPYMP
VKDISPGDLAEELRRNLVQPIVGTGTIKNSSAEEGKNLAPNQVLLILSDKAEVDPMYGWTKETAEFLAKWLNIELEFQGGSTVQKQDVR
ANTAIDIKKITLTLGD

Product features and protocols

1 Purity >90%
as determined by SDS-PAGE

2 Labelling Arg-¹³C₆, ¹⁵N₄ | Lys-¹³C₆, ¹⁵N₂

Predicted MW	81.6 kDa
Expression System	<i>E. coli</i>
Purification Tag	PolyHis tag at the N-terminus end
Isotopic incorporation	>98% as determined by LC-MS/MS analysis of digested SIL-protein
Protein content	Determined by UV280nm
Formulation	Lyophilized from 20 mM Tris-HCl, 100 mM NaCl, 1% Trehalose, 0.01% Tween 20, pH 8 buffer

Product preparation

For product preparation we recommend the following steps:

1. Briefly centrifuge the tube before opening
2. Reconstitute by adding the appropriate volume of ultrapure water for a final concentration of 200 µg/ml (e.g. 50 µl for 10 µg or 250 µl for 50 µg conditioning)
3. Vortex gently to insure complete dissolution
4. Wait 15 minutes at room temperature before proceeding further
5. Vortex gently again and centrifuge briefly

Product storage

The product is lyophilized and shipped at ambient temperature. **Store at -80 °C upon receipt.**

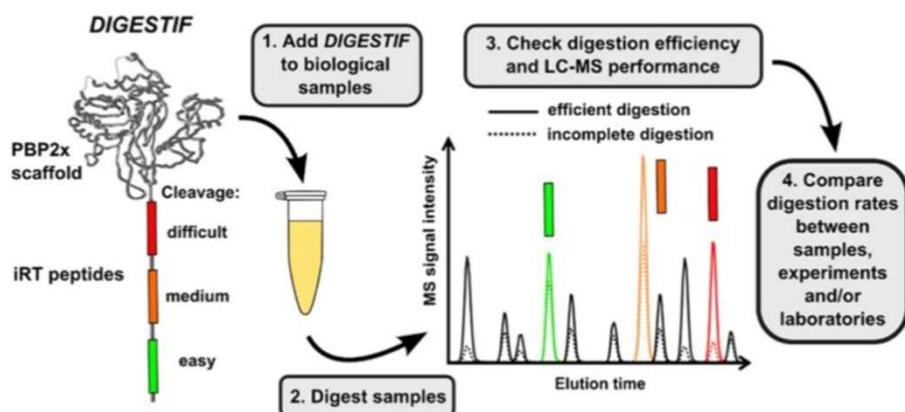
After reconstitution, the protein can be preserved at 4°C for a few weeks.

Avoid multiple freeze-thaw cycles

What's DIGESTIF

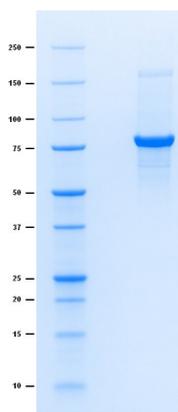


The *DIGESTIF*(1) standard consists of a soluble recombinant protein scaffold to which a set of 11 artificial peptides (iRTpeptides) (2) with good ionization properties has been incorporated. Three classes of peptides are incorporated on protein scaffold depending on their flanking amino acids:



Exemple on how to use DIGESTIF for controlling the digestion efficiency of the digestion protocol during method development. The peptides included in the DIGESTIF protein backbone, are evenly spaced along the chromatogram.

Supporting information



SDS-PAGE gel analysis of DIGESTIF protein in Reduced/Heated conditions (RH) and stained with Coomassie blue.

Peptide sequences and precursor ions m/z for labelled DIGESTIF

- Easily released
- Moderately released
- Difficult to cleave

Peptide sequence	iRT		Q1
LGGNEQVTR	a		492.3
GAGSSEPVTGLDAK	b		648.8
VEATFGVDESNK	c		687.8
YILAGVENS	d		551.3
TPVISGGPYEYR	e		674.8
TPVITGAPYEYR	f		688.9
DGLDAASYAPVR	g		704.3
ADVTPADFSEWSK	h		730.8
GTFIIDPGGVIR	i		627.9
GTFIIDPAAVIR	k		641.9
LFLQFGAQGSPFLK	l		780.9

References

1. Lebert D, Picard G, Aebersold R. et al., DIGESTIF: a universal quality standard for the control of bottom-up proteomics experiments. J Proteome Res. 2015 Feb 6;14(2)
2. Escher, C. et al. Using iRT, a normalized retention time for more targeted measurement of peptides. Proteomics 2012, 12, 1111–21.



The product is intended for research use only. Not for diagnostic or therapeutic use.

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