

# Kits for Methyl Groups Assignment

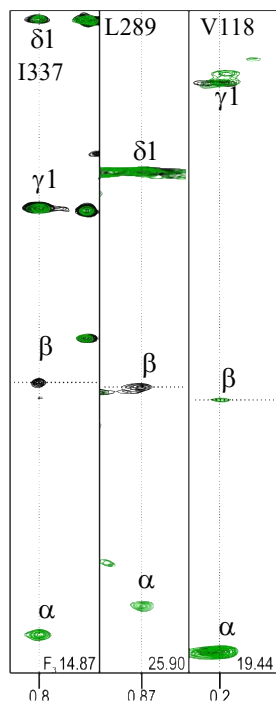
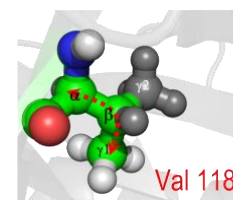
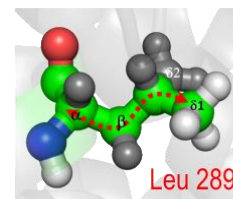
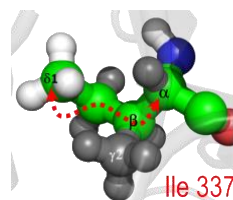
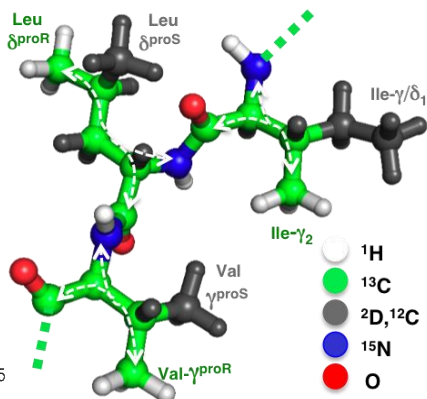
User-friendly solutions for the sequential assignment of Ala, Ile, Leu & Val methyl groups.

**NMR-Bio** has optimized kits for the assignment of Alanine, Isoleucine, Leucine and Valine residues. Precursors are designed to connect regio- or stereospecific labeled  $^{13}\text{CH}_3$  group to the  $^{15}\text{N}/^{13}\text{C}$  backbone nuclei via **a linear  $^{13}\text{C}$  spin system**. Use our labeling kits to assign separately or simultaneously methyl groups of different amino acids.

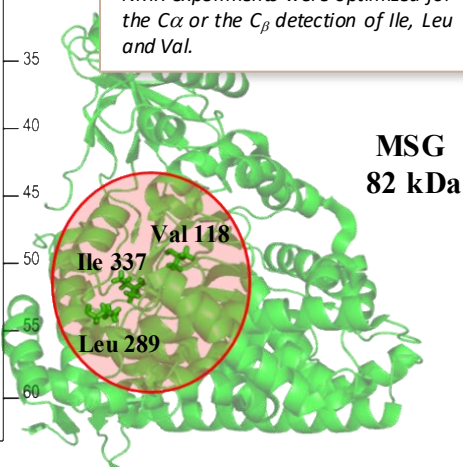
Optimized labeling of Ile, Leu and Val for assignment. Protein was produced in  $U\text{-}[^2\text{H},^{13}\text{C},^{15}\text{N}]$  M9 medium supplemented with **TLAM- $l^{\delta 1}LV^{\text{proR}}$ - $U\text{-}[^{13}\text{C}]$**  kits.

**Recommended kits:**

SLAM- $l^{\delta 1}\text{-}^{13}\text{C}_5$  /  $l^{\gamma 2}\text{-}^{13}\text{C}_4$  /  $A^{\beta}\text{-}^{13}\text{C}_3$ ,  
DLAM- $LV^{\text{proR}}\text{-}^{13}\text{C}_4$ , TLAM- $l^{\delta 1}LV^{\text{proR}}\text{-}U\text{-}[^{13}\text{C}]$ ,



Superimposition of 2D extracts of 3D out-and-back HCCH TOCSY of MSG protein produced in  $U\text{-}[^2\text{H},^{13}\text{C},^{15}\text{N}]$  M9 medium supplemented with **TLAM- $l^{\delta 1}LV^{\text{proR}}$ - $U\text{-}[^{13}\text{C}]$**  kit. The acquired NMR experiments were optimized for the  $\text{C}\alpha$  or the  $\text{C}\beta$  detection of Ile, Leu and Val.

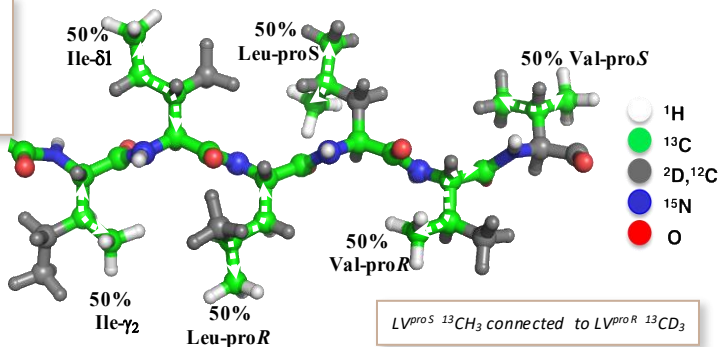


## Sequential and side chains assignment with stereo- and regio- specific identification of all Ala, Ile, Leu and Val methyl groups using a single sample and a single NMR experiment !

The new NMR-Bio combinatorial labeling kit permits to assign simultaneously Ala- $\beta$ , Ile- $\delta_1$ , Ile- $\gamma_2$ , Leu- $\delta_1$ , Leu- $\delta_2$ , Val- $\gamma_1$  and Val- $\gamma_2$  using a single triple resonance NMR experiment (Out-and-Back HCCH TOCSY ) and just one sample.

Optimized labeling of Ile, Leu and Val for assignment. Protein was produced in  $U$ -[ $^2H$ ,  $^{13}C$ ,  $^{15}N$ ] M9 medium supplemented with TLAM- $I^{\gamma_2/\delta_1}LV^{proR/proS}$

$I^{\gamma_2}$ ,  $I^{\delta_1}$  &  $LV^{proR}$   $^{13}CH_3$  connected to backbone



Examples of kits	$^{13}CH_3$ groups Labeled
SLAM- $I^{\delta_1-^{13}C_5}$	Ile $^{\delta_1}$
SLAM- $I^{\gamma_2-^{13}C_4}$	Ile $^{\gamma_2}$
SLAM- $V^{proR-^{13}C_4}$	Val $^{proR}$
DLAM- $LV^{proR-^{13}C_4}$	Leu $^{proR}$ Val $^{proR}$
DLAM- $LV^{proY}$	Leu $^{proS}$ Val $^{proS}$ LV $^{proS}$ $^{13}CH_3$ connected to LV $^{proR}$ $^{13}CD_3$ Through a linear $^{13}C$ spin system
DLAM- $I^{\delta_1}V^{proR-U-^{13}C}$	Ile $^{\delta_1}$ Val $^{proR}$
DLAM- $I^{\gamma_2}V^{proR-U-^{13}C}$	Ile $^{\gamma_2}$ Val $^{proR}$
TLAM- $I^{\gamma_2}LV^{proR-U-^{13}C}$	Ile $^{\gamma_2}$ Leu $^{proR}$ Val $^{proR}$
TLAM- $I^{\delta_1}LV^{proR-U-^{13}C}$	Ile $^{\delta_1}$ Leu $^{proR}$ Val $^{proR}$
TLAM- $I^{\gamma_2/\delta_1}LV^{proR/proS}$ $I^{\delta_1/\gamma_2}$ & $LV^{proR}$ $^{13}CH_3$ connected to backbone LV $^{proS}$ $^{13}CH_3$ connected to LV $^{proR}$ $^{13}CD_3$	Ile $^{\delta_1/\gamma_2}$ Leu $^{proR/proS}$ Val $^{proR/proS}$ Kerfah et al., J Biomol NMR. 2015; 63(4):389-402

For any kit including  $U$ - $^{13}C$ -Ala- $\beta$ , please inquire !  
Our kits are calibrated for 1 L *E. coli* culture  
For any quote request contact us at [sales@nmr-bio.com](mailto:sales@nmr-bio.com)  
[www.nmr-bio.com](http://www.nmr-bio.com)

