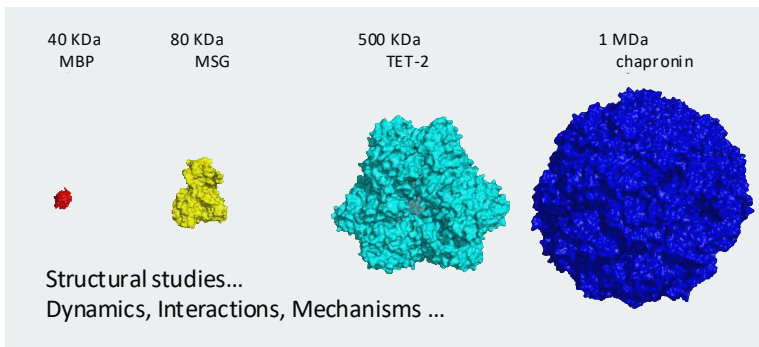




NMR-bio
From molecules to medicine and beyond

Investigate protein assemblies with molecular weight up to 1 MDa!



Introduce **NMR-Bio** SLAM kits in a perdeuterated minimum medium, to achieve high incorporation levels of $^{13}\text{CH}_3$ isotopomer only in a single type of methyl groups (*i.e.* Val-proS, Ala- β , Thr- γ etc. ...) without detectable scrambling.

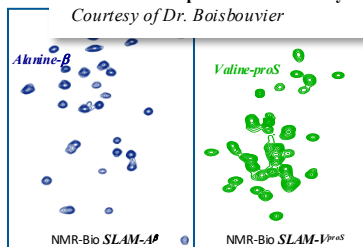
Reduce spectral overlaps using **NMR-Bio** combinatorial labeling kits, designed to label simultaneously different types of Methyl probes well separated in Methyl-TROSY spectra.
Recommended kits: SLAM-A β / I δ^1 / M ϵ / T γ / VproS

Detection of long-range nOes in supramolecular assemblies: **NMR-Bio** scrambling free labeling solutions are optimized for the extraction of precise and long-range nOe distance restraints between methyl probes in perdeuterated proteins. Compared to standard 2-keto acids, NMR-Bio acetolactate precursors increase sensitivity by up to a factor of 4, allowing for the detection of structurally meaningful long-range and intermolecular nOes restraints.

Filtering of inter-molecular nOes in supramolecular assemblies: Use **NMR-Bio** kits to filter inter- from intra-molecular nOes and get more precise structural information to refine your homo-oligomeric protein structure. Using our regio- and stereo-specific labeling (*ie.* Ile- γ 2, Ile- δ 1, Leu-proS, Leu-proR, Val-proS and Val-proR), the inter-molecular nOes filtering of the same residue is achievable!

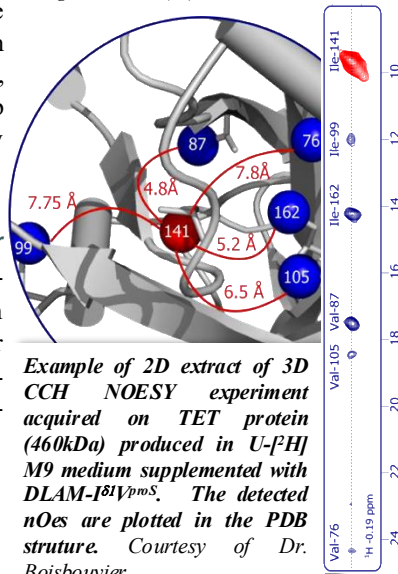
Recommended kits: DLAM- A β I δ^1 / A β M ϵ / I δ^1 M ϵ / I δ^1 T γ / I δ^1 VproS / I γ^2 VproR / I δ^1 LproS / I γ^2 LproR / M ϵ VproS / M ϵ T γ ; TLAM- A β I δ^1 VproS / A β I δ^1 M ϵ / I δ^1 M ϵ VproS

2D Methyl-TROSY spectra of a 468 kDa protein assembly.
Courtesy of Dr. Boisbouvier



References:

Kerfah et al., *Curr Opin Struct Biol.* 2015, 32:113-22; Gans et al., *Angew Chem Int Ed Engl.* 2010; 8:49(11):1958-62



NMR-Bio kits

Our patented precursors are specifically deuterated and supplied as frozen user-friendly kits ready to use without requirement of any further chemical modification. All NMR-Bio kits are calibrated for addition into of deuterated M9 culture medium prior to induction. NMR-Bio kits have been optimized to incorporate $^{13}\text{CH}_3$ or $^{13}\text{CHD}_2$ isotopomers in selected methyl groups of proteins, with the possibility to incorporate a linear ^{13}C spin system connecting the specifically labeled methyl groups to the backbone nuclei. Kits are provided with precise protocols extensively tested *in-vivo* to ensure optimal incorporation of isotopes in targeted methyl groups without detectable scrambling in other positions.

Examples of kits	$^{13}\text{CH}_3$ groups Labeled
SLAM- A $^{\beta}$	Ala $^{\beta}$
SLAM- I $^{\gamma 2}$	Ile $^{\gamma 2}$
SLAM- I $^{\delta 1}$	Ile $^{\delta 1}$
SLAM- M $^{\epsilon}$	Met $^{\epsilon}$
SLAM- T $^{\gamma}$	Thr $^{\gamma}$
SLAM- V $^{\text{proS}}$	Val $^{\text{proS}}$
DLAM- LV $^{\text{proS}}$	Leu $^{\text{proS}}$ Val $^{\text{proS}}$
DLAM- I $^{\delta 1}$ M $^{\epsilon}$	Ile $^{\delta 1}$ Met $^{\epsilon}$
DLAM-A $^{\beta}$ I $^{\delta 1}$	Ala $^{\beta}$ Ile $^{\delta 1}$
DLAM- I $^{\delta 1}$ V $^{\text{proS}}$	Ile $^{\delta 1}$ Val $^{\text{proS}}$
DLAM-A $^{\beta}$ M $^{\epsilon}$	Ala $^{\beta}$ Met $^{\epsilon}$
DLAM- M $^{\epsilon}$ V $^{\text{proS}}$	Met $^{\epsilon}$ Val $^{\text{proS}}$
DLAM-I $^{\delta 1}$ T $^{\gamma}$	Ile $^{\delta 1}$ Thr $^{\gamma}$
DLAM- M $^{\epsilon}$ T $^{\gamma}$	Met $^{\epsilon}$ Thr $^{\gamma}$
TLAM-I $^{\delta 1}$ M $^{\epsilon}$ V $^{\text{proS}}$	Ile $^{\delta 1}$ Met $^{\epsilon}$ Val $^{\text{proS}}$
TLAM-A $^{\beta}$ I $^{\delta 1}$ V $^{\text{proS}}$	Ala $^{\beta}$ Ile $^{\delta 1}$ Val $^{\text{proS}}$
TLAM-A $^{\beta}$ I $^{\delta 1}$ M $^{\epsilon}$	Ala $^{\beta}$ Ile $^{\delta 1}$ Met $^{\epsilon}$

Our kits are calibrated for 1 L *E. coli* culture
 For any quote request contact us at sales@nmr-bio.com
www.nmr-bio.com

– ACADEMIC RESEARCH USE ONLY –