

### Test Liposcale®

Liposcale Test is an advanced lipoprotein analysis performed by Nuclear Magnetic Resonance (NMR) to quantify particle size, lipid content (cholesterol and triglycerides) and particle number of lipoprotein classes VLDL, LDL and HDL; as well as the concentration of their big, medium and small subclasses.

PARAMETER	RESULT	RECOMMENDED VALUE	
		Secondary prevention	Primary prevention
<b>Lipids<sup>1</sup></b>			
TOTAL CHOLESTEROL	<span style="color:red">●</span> <b>232 mg/dL</b>		< 200
LDL CHOLESTEROL <sup>2</sup>	<span style="color:red">●</span> <b>150 mg/dL</b>	< 70	< 130
HDL CHOLESTEROL	<span style="color:green">●</span> <b>76 mg/dL</b>		> ♂40 ♀50
TRIGLYCERIDES	<span style="color:green">●</span> <b>51 mg/dL</b>		< 150
REMNANT CHOLESTEROL	<span style="color:green">●</span> <b>6 mg/dL</b>		< 30
NO-HDL CHOLESTEROL	<span style="color:green">●</span> <b>156 mg/dL</b>	< 100	< 160

### Particle number

LDL PARTICLES	<span style="color:red">●</span> <b>1028 nmol/L</b>	< 600	< 1000
LDL PARTICLES (SMALL)	<span style="color:green">●</span> <b>477 nmol/L</b>	< 300	< 500
HDL PARTICLES (MEDIUM)	<span style="color:green">●</span> <b>10.6 µmol/L</b>		> 8.2
VLDL PARTICLES	<span style="color:green">●</span> <b>11 nmol/L</b>		< 70

### Particle size

LDL PARTICLES	<span style="color:green">●</span> <b>21.33 nm</b>		> 20.91
HDL PARTICLES	<span style="color:green">●</span> <b>8.22 nm</b>		> 8.21

### Clinical outcome

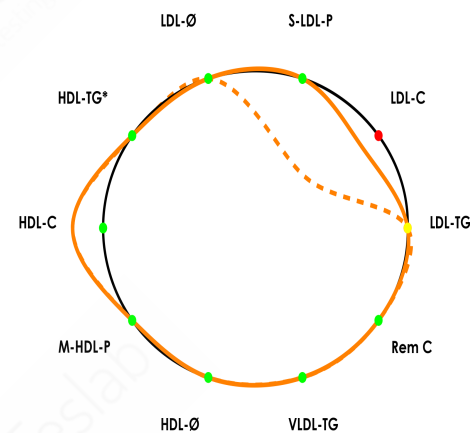
Altered lipoprotein parameters relevant for clinical diagnosis (see extended lipid panel in the following page):

- Increased levels of LDL cholesterol
- Increased levels of LDL triglycerides
- Increased levels of total, large and medium LDL particles
- Large VLDL particle size

<sup>1</sup>All parameters have been determined by NMR spectroscopy. There may be variability when compared to other analytical methods.

<sup>2</sup>The LDL cholesterol is calculated in a direct way and does not include the IDL cholesterol

### Lipidic Contour



LDL-TG	LDL Triglycerides
LDL-C	LDL Cholesterol
S-LDL-P	Small LDL particles
LDL-Ø	LDL particle size
HDL-C	HDL Cholesterol
HDL-TG*	Ratio of HDL Triglycerides/HDL Cholesterol
M-HDL-P	Medium HDL particles
HDL-Ø	HDL particle size
VLDL-TG	VLDL Triglycerides
Rem C	Remnant cholesterol
Primary prevention	<span style="color:orange">—</span>
Secondary prevention	<span style="color:orange">- - -</span>

### Lipidic Contour interpretation

Simulation of lipidic risk factor in arterial cross section: Orange contour represents the patient's profile with respect to values from a general population sample of 6000 subjects, represented by a black circle. The orange discontinuous contour represents high risk patients (secondary prevention). The area defined by the patient's lipidic contour decreases when its lipidic profile is associated with higher cardiovascular risk (i.e. values higher than reference population's recommended value for VLDL-C, VLDL-TG, VLDL-P, LDL-C, LDL-TG, S-LDL-P, HDL-TG variables; or lower than the reference population's recommended value for LDL-Ø, HDL-Ø and M-HDL-P variables).

Variables contributing to a decrease in the lipidic contour area are marked in red, while variables that contribute to an increase in it are marked in green. Variables whose values are close to the reference population's recommended value, according to the classification of variables mentioned above, appear in yellow.

\*The HDL triglycerides/HDL cholesterol ratio provides more information about the content of HDL triglycerides when the number of HDL particles is high.

NAME -  
CHN Example 1  
REPORT DATE 08/11/2018  
APPLICATION DATE -

PARAMETER	RESULT	RECOMMENDED VALUE	PERCENTILES OF THE REFERENCE POPULATION		
			25%	50%	75%
<b>CHOLESTEROL</b>					
VLDL-C (mg/dL)	<1	< 22	6	11	17
IDL-C (mg/dL)	5	< 9	7	9	13
LDL-C (mg/dL)	150*	< 130	110	130	150
HDL-C (mg/dL)	76	>50 ♀ - >40 ♂	48	56	64
REMNANT-C (mg/dL)	6	< 30	14	21	30
NO-HDL-C (mg/dL)	156	< 160	130	150	180
<b>TRIGLYCERIDES</b>					
VLDL-TG (mg/dL)	19	< 98	39	54	78
IDL-TG (mg/dL)	7	< 12	8	10	13
LDL-TG (mg/dL)	19*	< 19	12	15	19
HDL-TG (mg/dL)	6	< 12	9	12	15
<b>PARTICLE SIZE</b>					
VLDL-Ø (nm)	42.39*	42.03 - 42.36	42.06	42.21	42.36
LDL-Ø (nm)	21.33	> 20.91	20.91	21.11	21.29
HDL-Ø (nm)	8.22	> 8.21	8.21	8.26	8.31

PARAMETER	RESULT	RECOMMENDED VALUE	PERCENTILES OF THE REFERENCE POPULATION		
			25%	50%	75%
<b>PARTICLE NUMBER</b>					
VLDL-P (nmol/L)	11	< 70	27	38	56
Large (L-VLDL-P) (nmol/L)	0.26	< 1.62	0.73	0.99	1.35
Medium (M-VLDL-P) (nmol/L)	1.65	< 7.51	3.04	4.28	6.08
Small (S-VLDL-P) (nmol/L)	9	< 61	23	32	49
LDL-P (nmol/L)	1028*	< 1000	800	930	1070
Large (L-LDL-P) (nmol/L)	162*	< 140	120	140	160
Medium (M-LDL-P) (nmol/L)	389*	< 290	220	290	360
Small (S-LDL-P) (nmol/L)	477	< 500	430	490	560
HDL-P (µmol/L)	35	> 24	24	28	32
Large (L-HDL-P) (µmol/L)	0.29	> 0.24	0.25	0.28	0.32
Medium (M-HDL-P) (µmol/L)	10.6	> 8.2	8.5	9.7	11
Small (S-HDL-P) (µmol/L)	24	> 15	15	18	21

Reference population data has been generated with 6000 subjects, men and women of different ages (15 to 85 years old).  
\*Higher/lower than the reference population

Percentiles in reference population are represented in bars. Those variables clearly associated with CVD risk appear in a colour bar: red indicates increased risk whereas green indicates lower risk. Alternatively, variables in which CVD relation has not been clearly established appear in a grey bar.