

# HLA alleles detectable by the HLA-B27 StripAssay<sup>®</sup> and HLA-B27 RealFast<sup>™</sup> Assay

HLA-B27 StripAssay<sup>®</sup> (REF 4-320) and HLA-B27 RealFast<sup>™</sup> Assay (REF 7-620 / 7-623) are designed to be capable of detecting known HLA-B\*27 alleles and subtypes.

According to the IPD-IMGT/HLA Database<sup>\*)</sup> sequence variations are present in B\*27 alleles 03<sup>\*\*</sup>), 05:09, 05:12<sup>\*\*</sup>), 05:23, 05:51, 06:02<sup>\*\*</sup>), 07:03<sup>\*\*</sup>), 07:06, 12, 16, 17<sup>\*\*</sup>), 18, 23, 26, 29, 31, 59N<sup>\*\*</sup>), 65N<sup>\*\*</sup>), 77, 85, 91, 92, 94N<sup>\*\*</sup>), 101, 109<sup>\*\*</sup>), 111<sup>\*\*</sup>), 119, 129, 139<sup>\*\*</sup>), 140, 151<sup>\*\*</sup>), 153, 157, 170<sup>\*\*</sup>), 182<sup>\*\*</sup>), 204, 237<sup>\*\*</sup>), 239, 242, 243N<sup>\*\*</sup>), 246N<sup>\*\*</sup>) and 250<sup>\*\*</sup>) that may abrogate or reduce their detectability by HLA-B27 StripAssay<sup>®</sup> and HLA-B27 RealFast<sup>™</sup> Assay.

Allele frequencies are available at Allele Frequency Net Database: [www.allelefrequencies.net](http://www.allelefrequencies.net)

The Table summarizes the predicted coverage of known HLA-B\*27 alleles based on published sequences. In most cases experimental confirmation is pending due to limited accessibility of suitable sample materials. The Table also indicates known association of HLA-B\*27 alleles with ankylosing spondylitis (AS) and/or other forms of spondyloarthritis (SpA).

HLA B*27 alleles	Supposedly abrogated or reduced detection of alleles by REF 4-320 and by REF 7-620	Association with AS and/or SpA
B*27:01 to B*27:05:57	B*27:05:09, B*27:05:23, B*27:05:51	✓
B*27:06		X
B*27:07:01 to B*27:08	B*27:07:06	✓
B*27:09		X
B*27:10 to B*27:15	B*27:12:01:01 to B*27:12:01:03	✓
B*27:16	B*27:16	N.A.
B*27:17 to B*27:19	B*27:18	✓
B*27:20 to B*27:21		N.A.
B*27:23 to B*27:25	B*27:23	✓
B*27:26 to B*27:27	B*27:26	N.A.
B*27:28		✓
B*27:29 to B*27:48	B*27:29, B*27:31	N.A.
B*27:49		✓
B*27:50:01 to B*27:256	B*27:77, B*27:85, B*27:91, B*27:92, B*27:101, B*27:109, B*27:119, B*27:129, B*27:140, B*27:153, B*27:157, B*27:204, B*27:239, B*27:242	N.A.

N.A. ... no data available

\*) IPD-IMGT/HLA Database ([www.ebi.ac.uk/ipd/imgt/hla](http://www.ebi.ac.uk/ipd/imgt/hla)): release 3.47.0 (2022-01)

\*\*) HLA-B27 StripAssay<sup>®</sup> (REF 4-320) detects B\*27:03, B\*27:05:12, B\*27:06:02, B\*27:07:03, B\*27:17, B\*27:59N, B\*27:65N, B\*27:94N, B\*27:109, B\*27:111, B\*27:139, B\*27:151, B\*27:170, B\*27:182, B\*27:237, B\*27:243N, B\*27:246N and B\*27:250. HLA-B27 RealFast<sup>™</sup> Assay (REF 7-620/23) detects B\*27:03, B\*27:05:12, B\*27:06:02, B\*27:07:03, B\*27:17, B\*27:65N, B\*27:94N, B\*27:111, B\*27:139, B\*27:151, B\*27:170, B\*27:182, B\*27:237, B\*27:243N and B\*27:250, but the corresponding HEX labelled TaqMan Probe binding to the control fragment may fail in homozygous samples. HLA-B27 RealFast<sup>™</sup> Assay is unlikely to detect B\*27:59N, B\*27:109 and B\*27:246N.

Possible cross-reactivity of non-HLA-B*27 alleles based on in-silico analysis
B*07:428, B*14:57, B*15:594, B*37:60, B*44:97, B*55:121. B*73:01:01:01 to B*73:03 (cross reactivity in heterozygous samples unlikely but very late Cq values in homozygous samples possible)

Ref: Khan MA. *An Update on the Genetic Polymorphism of HLA-B\*27 With 213 Alleles Encompassing 160 Subtypes (and Still Counting)*. *Curr Rheumatol Rep*. 2017;19(2):9.