

HLA alleles detectable by the HLA-B27 StripAssay[®] and HLA-B27 RealFast[™] Assay

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

According to the IPD-IMGT/HLA Database^{*)} sequence variations are present in B*27 alleles 05:09, 05:23, 07:06, 12, 16, 18, 23, 26, 29, 31, 59N, 65N^{**)}, 77, 85, 91, 92, 101, 109^{***)}, 119, 129, 140, 153, 157, 170^{**)} and 204 that may abrogate or reduce their detectability by HLA-B27 StripAssay[®] and HLA-B27 RealFast[™] Assay.

Allele frequencies are available at Allele Frequency Net Database: 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 REF 7-620 / 7-623	Association with AS and/or SpA
B*27:01 to B*27:05:47	B*27:05:09, B*27:05:23	✓
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*27:223N	B*27:59N, B*27:65N ^{§)} , 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*27:170 ^{§)} , B*27:204	N.A.

N.A. ... no data available

^{*)} IPD-IMGT/HLA Database (www.ebi.ac.uk/ipd/imgt/hla): release 3.37.0 (2019-05)

^{**)} HLA-B27 StripAssay (REF 4-320) will detect B*27:109. HLA-B27 RealFast Assay (REF 7-620/23) is unlikely to detect B*27:109.

^{***)} HLA-B27 StripAssay (REF 4-320) will detect B*27:65N and B*27:170. HLA-B27 RealFast Assay (REF 7-620/23) will detect B*27:65N and B*27:170, but HEX-labelled TaqMan Probe binding to the control fragment may fail.

Possible cross-reactivity of non-HLA-B*27 alleles based on in-silico analysis
B*07:10, B*07:368, B*14:57, B*37:60, B*44:97

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.